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The Rock Art Sites in  
Carbon County, Montana

by

Lawrence Loendorf  
and  
Audrey Porsche

1985



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# The Rock Art Sites in Carbon County, Montana

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## Introduction

During the summer of 1985 the University of North Dakota, Department of Anthropology examined all the known rock art sites in Carbon County, Montana. This work, undertaken between June 20 and July 20, was completed for the Carbon County Historic Preservation Office under a contractual agreement with the Montana State Historic Preservation Office.

Edrie Vinson, Carbon County Historic Preservation Officer coordinated the project and Lawrence Loendorf, Professor of Anthropology, University of North Dakota, completed the field and laboratory research. Loendorf was assisted by Audrey Porsche as a field supervisor, a field crew of two University of North Dakota students, Randy Korgel and Debora Smith, a high school student, Lisa Croy and an assistant archaeologist, Terry Wolfgram. The work was completed from a base of operations in Bridger, Montana.

Twenty five rock arts sites had been previously recorded in Carbon County. During the research it was possible to visit all but one of them. This site, 24CB753, could not be located. Of the remaining twenty four sites, 24CB412, was found in Big Horn County rather than Carbon County.

In addition to the known sites, ten new sites were found during the research. One of these, Stateline Petroglyphs, is within a few meters of Carbon County but actually located in Big Horn County, Wyoming. A site form for this site was mailed to the Bureau of Land Management in Wyoming who maintain the lands where the site is located. Another site, Red Buffalo, is an exciting new painted site near Weatherman Draw in Carbon County. It is included in this report. The remaining eight new sites are located in a series of sandstone cuestas and rincons about four kilometers south of Bridger. Most of these sites are on lands administered by the Montana Bureau of Land Management although some are on private lands. One of these sites was shown to us by an adjacent landowner, Mr. Paul Duke, and the others were found by the field crew.

The intent of the research was to visit each site, learn what varieties of rock art existed at the site and try to fit the rock art motifs into some patterns. The ultimate goal was to prepare a thematic nomination to the National Register of Historic Places for the rock art

sites in Carbon County and the information in this report was used to prepare such a nomination.

The effort expended at each site included the making of a small local area map to show the position of the site in its surroundings, locating the site by the Universal Transverse Mercator system, completing new site forms and/or upgrading of existing site data, some site recording by photography, tracing or sketching the art, soil probes into the deposits at the base of the cliffs where the art was located and excavating for datable cultural remains in areas with positive soil probing. Through this effort, each site was evaluated as to its potential for significant data recovery through future excavation. The rock drawings at each site were also evaluated and recommendations were developed for more intensive and complete recording of those sites which warranted such work. The results of all the research are discussed in this report.

#### Area Defined

Carbon County is situated in an area of diverse geographical settings (Fig. 1). The Beartooth Mountains in the western part of the county exceed elevations of 12,000 feet and drop off rapidly to the east along the Clark Fork of the Yellowstone River which has elevations less than 4,000 feet. The Pryor Mountains in the eastern part of the county offer yet another series of elevational zones. Ecological diversity in Carbon County ranges from mountain tops above timberline to lowland desert areas; the vegetation varies from spruce and pine forests at high elevations to juniper and mahogany dominated areas interspersed with grasses at middle elevations to sagebrush, greasewood and rabbitbrush in the lowlands. There is considerable annual and diurnal variation in temperature in the county and significant differences in the amounts of annual precipitation.

Equally as important as the diverse ecological settings are the streams and rivers which traverse the county. The Clark Fork of the Yellowstone River flows east off the Beartooth Plateau in Wyoming and then turns north to flow across Carbon County to a juncture with the Yellowstone River just outside the northern border of the county. This river and its wide valley is especially significant because it offers a

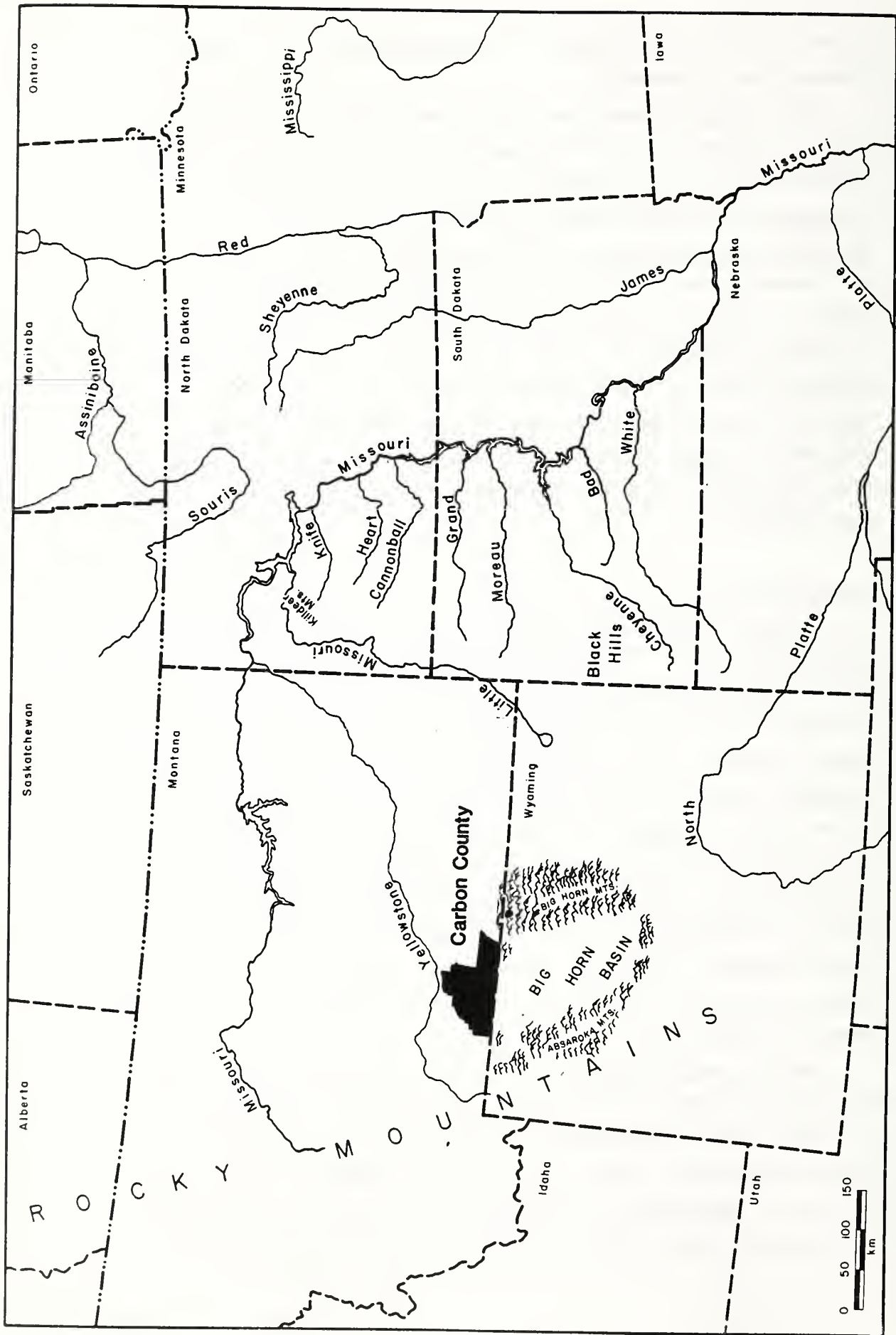


Fig. 1 Map showing the location of Carbon County in Montana.



practical route of contact between the Bighorn Basin of Wyoming and the dissected plains of eastern Montana. It is the logical point of contact between the southern basin cultures and the northern plains cultures.

Another important stream valley is Rock Creek. This stream flows north and east from the Beartooth Plateau to a junction with the Clark Fork River near the point where the latter joins the Yellowstone River. This means that the mouths of both Rock Creek and the Clark Fork are within a few miles of each other and this area of multiple stream junctions was frequently occupied by trappers and traders as a rendezvous point. Rock Creek supplied clean and cold water while the Clark Fork bottomland offered cottonwood forests for protection and fuel. It was a short distance from the Yellowstone River where major east/west travel took place. The use of the location by trappers and traders suggests the importance of the area for the same reasons by prehistoric groups.

In sum, Carbon County offered a diverse series of ecological settings to the prehistoric cultures that practiced hunting and gathering. Nearly every species of animal or plant known in the state of Montana is found in Carbon County. Prehistoric hunters and gatherers scheduled their yearly subsistence activities through the habits of these diverse animal and plant species. Perhaps the Crow chief, Arapooish summed it up best when he said the following about the area:

It has snowy mountains and sunny plains; all kinds of climates and good things for every season. When the summer heats scorch the prairies, you can draw up under the mountains, where the air is sweet and cool, the grass fresh, and bright streams come tumbling out of the snow-banks. There you can hunt the elk, the deer, and the antelope, when their skins are fit for dressing; there you will find plenty of white bears and mountain sheep.

In the autumn, when your horses are fat and strong from the mountain pastures, you can go down into the plains and hunt the buffalo, or trap beaver on the streams. And when winter comes on, you can take shelter in the woody bottoms along the rivers. . .

The Crow country is exactly in the right place. Everything good is to be found there. There is no country like the Crow country (Irving 1843:226).

In addition to the abundant faunal and floral resources, Carbon County contains excellent deposits of suitable stone for the manufacture of high quality tools. Obsidian from the Beartooth Mountains was one of the most highly prized stone materials for tool manufacture in North America. The mountain areas contain many other varieties of chert, jasper, and chalcedony for tool production. Softer stones, such as steatite, for carving pipes or pots are also found in the county.

These resources together with the major travel routes add up to make Carbon County an attractive location for prehistoric hunters and gatherers. It is not surprising that there are hundreds of archeological sites in the county.

#### Previous Archaeological Work on Rock in Carbon County

Although there have not been many previous archaeological projects which concentrated only on rock art in Carbon County, there have been a number of projects which recorded rock art as a part of their research. Perhaps the first anthropologist to visit a rock art site in Carbon County was Dr. John Provinse who took some photographs of the main area of pictographs in Weatherman Draw in the 1920's. Provinse sent these photographs to the Billings Archaeological Society in the 1960's. In 1965 the senior author of this report found the site and guided the Billings Archaeological Society to it.

During the 1940's and early 1950's, William Mulloy was completing the excavation of Pictograph Cave south of Billings and looking at sites in adjacent areas for comparative purposes. Mulloy's report (1958) includes references to rock art sites in Carbon County near Joliet and Roberts. The site near Joliet discussed by Mulloy is probably the Hilej site, because it contains the shield figures he mentions as being found at the site. The site near Roberts has never been found.

In the 1950's there were several expeditions into Big Horn Canyon by archaeologists from the Smithsonian Institution River Basin Surveys. Some of these archaeologists visited rock art sites in Carbon County and in 1951, Franklin Fenenga assigned numbers and filled out site forms for two sites in Crooked Creek Canyon.

In the early 1960's the primary work at rock art sites in Carbon County was by members of the Billings Archaeological Society. Stuart

Conner and Ken Feyhl of Billings visited and recorded many of the known rock art sites in the county during this time. Both of these individuals continue to be strong advocates of high quality archaeological research. Both have published on rock art sites in Carbon County, but more importantly they have photographed and recorded sites, inquired through written and verbal means about sites, led other professional archaeologists to the sites and generally created a greater awareness of rock art in Montana. In more recent times Thomas Lewis of Billings has continued this tradition. He has published on sites, searched for and found new sites and been thoroughly cooperative with the professional community.

In the period between 1968 and 1974, a series of archaeological survey and excavation projects were completed in the Pryor Mountains. These projects, sponsored by the National Park Service, the Bureau of Land Management and the Forest Service, were under the direction of the senior author of this report. Several rock art sites were found during the survey work in Carbon County. One of these, Petroglyph Canyon (24CB601), was subsequently put on the National Register of Historic Places by the Bureau of Land Management.

In the past few years the Bureau of Land Management has sponsored some research at rock art sites in Carbon County. Total recordation of the petroglyphs in Petroglyph Canyon was completed in 1983. This included several kinds of photography as well as description and analysis work. In 1983-84 the Bureau supported complete photography of the rock art at the complex of known rock art sites in or near Weatherman Draw. This photography was completed by Stuart Conner; it did not include description and analysis of the rock art.

#### The Present Project

During the summer of 1985, 32 rock art sites were visited and studied in Carbon County (Fig. 2). Thomas Lewis has reported another site since we left the field. It is severely eroded and contains only a few badly faded lines in indistinguishable patterns. The importance of the site, as recognized by Lewis, is that it is executed in a setting and technique similar to two other sites in Carbon County. This type, the fine painted line type, is discussed elsewhere in this report.

# Rock Art Site Locations Carbon County, Montana

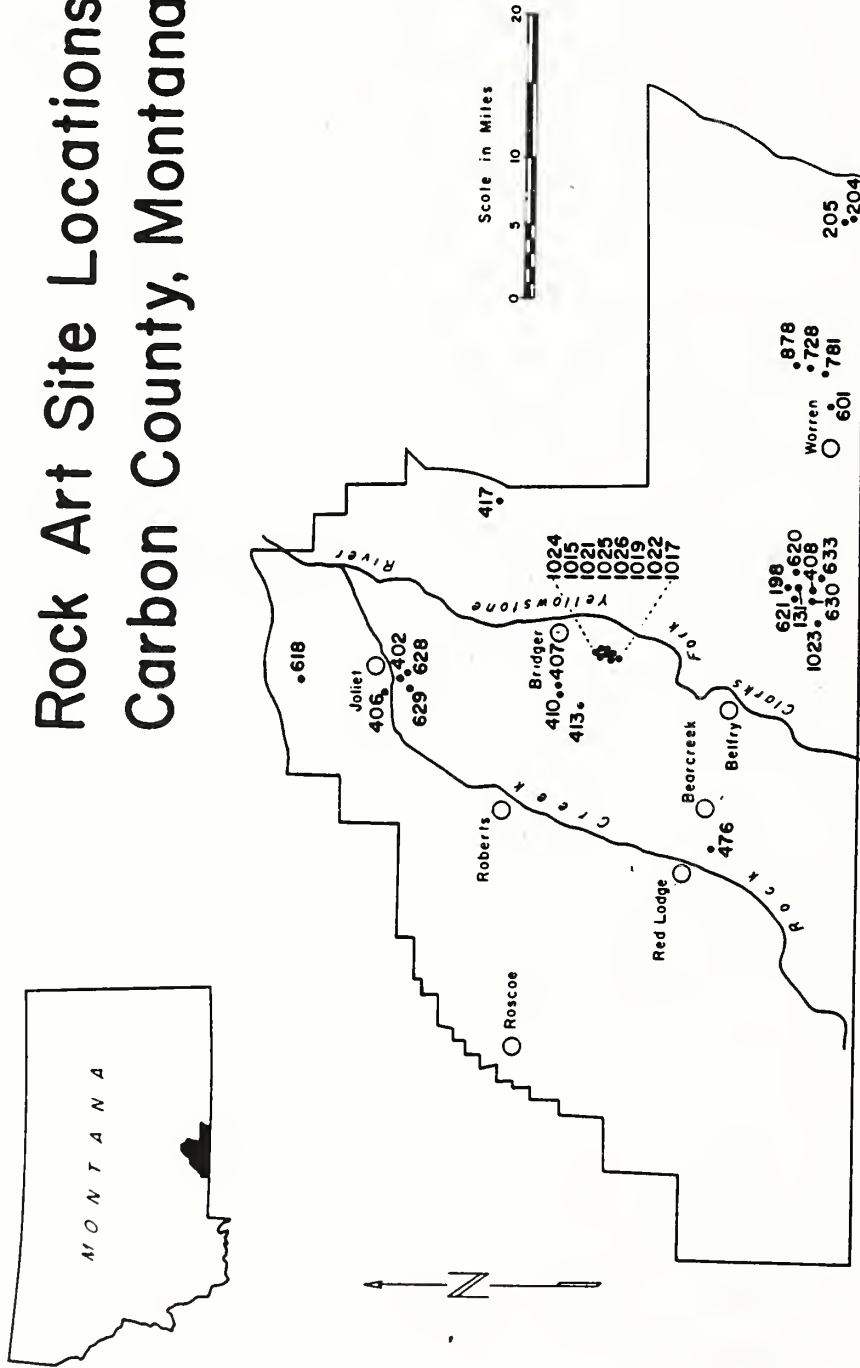


Fig. 2 Rock Art Site Locations in Carbon County, Montana.

One site, the Antler Ranch, 24CB412, was actually found in Big Horn County. Only minor work was completed at the site. Another site, Fickle Overhang, 24CB753, could not be relocated.

The following section includes short descriptions of each of the sites except the Sansifer site. Additional information for all the sites is found in the site data files which accompany this report. These data include an area sketch map for each site, photographs, previous notes or old site record forms and updated or new site record forms.

Many of the rock art sites in Carbon County are discussed in published source materials. Pictures and discussion of both Hilej and the Joliet site are found in North American Indian Rock Art by K. F. Wellman (1979:123 128,130-132, and illustrations 663-665 and 626). David Gebhard (1974) also presents data on these two sites. The most complete discussion of Carbon County rock art sites is found in Rock Art of the Montana High Plains by Stuart and Betty Lu Conner (1971). The fine incised line style of the Joliet site is discussed in considerable detail in this book. The complex of sites in Weatherman Draw are discussed by Thomas Lewis (1984). Petroglyph Canyon, 24CB601, is reported in a published monograph on the site (Loendorf 1984) and the Crooked Creek site, 24CB205 and the Tillet site, 24CB204 are discussed in a typescript report submitted to the National Park Service and other agencies (Loendorf 1971). Other published references are found either in the following descriptions or on the site forms.

Mulloy (1958:121-122) mentions a rock art site near Roberts, Montana, which may be in Carbon County. Carl Barz of Billings, Montana, gave the senior author sketches in 1966 of some rock art near Roberts, but would not reveal the location. This site has never been found. Perhaps the publicity about the present project will lead to its discovery. Other new sites may also be discovered.

#### Half Bear (24CB198)

Four rock art sites are located on an outcropping of sandstone and nearby sandstone boulders in an area about two kilometers north of the Provinse Pictographs in Weatherman Draw (Fig. 22). The four sites are

found in various settings around the sandstone ridge. The ridge has an oval shape which encloses a large open meadow almost like a natural corral. The sandstone ridge supports juniper with some pine.

The Half Bear site was discovered in 1983 by Gary Leppart of Billings, Montana. The site is situated on an isolated sandstone boulder in the open meadow at the interior of the oval shaped ridge. The petroglyph is on the southeastern face of the boulder. It is a large bear made by incising and rubbing the rock face. It has poorly formed hind quarters which are either eroded or were never completed. Its fore quarters include a head with short ears and two eyes on one side. The paws and claws are difficult to distinguish on the front legs because they are eroded, but they are still visible in the correct light.

A series of soil probes into the deposits at the base of the panel did not reveal any subsurface deposits of cultural debris. It was difficult to get the probe in to any depth and buried deposits may still exist.

#### Tillet (24CB204)

The site is situated in the mouth of Crooked Creek Canyon on the Tillet Ranch (Fig. 3). It is at the same level as the floodplain where Crooked Creeks flows past it in a series of braided channels. Large cottonwood trees dominate the nearby vegetation but dozens of other species of deciduous trees and bushes also grow along the creek.

The Tillet site is in a soft sandstone. Rock art is found along the cliff wall over a distance of about 50 meters. Near the center of this distance there is a small grotto or overhang in the cliff face (Fig. 4). This grotto has sloping back wall and little floor area. It goes into the cliff about three meters. Hundreds of vulvaform shapes are carved in the walls of this grotto. At least two of these forms have red paint in their centers which led to earlier speculation that the grotto has some association with female menstruation periods (Loendorf 1971:86).

An additional 100 or more drawings are found at the site. They include several sets of parallel lines some of which are in horizontal

# Tillet Site 24CB204

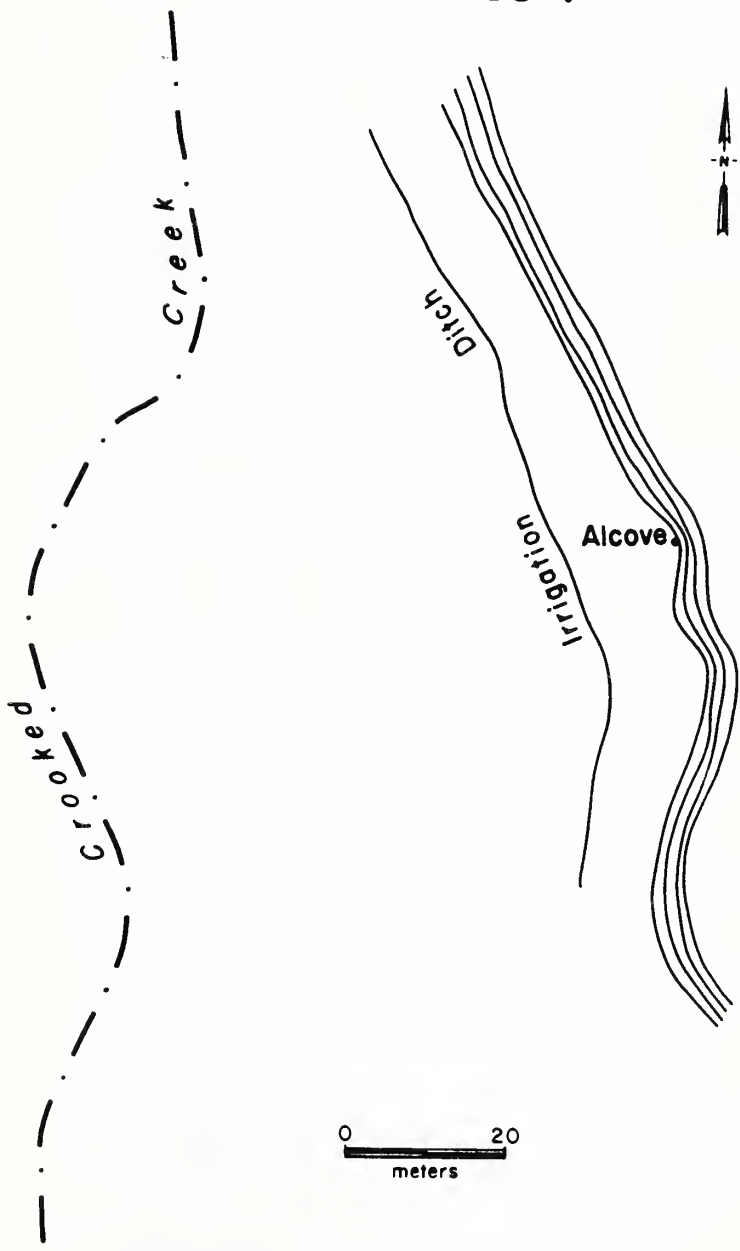


Fig. 3 Map of Tillet Site - 24CB204.

series and others in vertical series. One vertical series of horizontal lines about 65 centimeters long is divided by a long vertical groove down the center. Many other simple carved designs such as v shaped figures or rectangular figures are also found on the cliff.

Recognizable drawings include bear paws, several human figures in the en toto pecked style, one shield bearing warrior painted in the fine painted line type, and several pecked outline figures that include arrows or spears and humans. There are also dozens of tool grooves along the cliff face.

The Tillet site was originally visited and assigned a site number in 1951 by Franklin Fenenga of the Smithsonian Institution River Basin Surveys. It was visited a few years later by Bobby Purcell of the Billings Archaeological Society and together with site 24CB205 it was assigned a new number--24CB403. This second number should be dropped. In 1969 the site was examined as part of the archaeological survey project in the Pryor Mountains (Loendorf 1971:78-89).

In 1985 a small area map was made and forty two soil probes were removed down the length of the cliff wall beneath the rock art. The probes were spaced about one meter apart and ranged in depth from 10 centimeters to 50 centimeters. Charcoal was discovered in several locations along the cliff face. With this as a guide and permission from Lloyd Tillet, the landowner, we excavated a one meter square into the deposits a few meters north of the grotto or overhang. This test excavation was dug to a depth of 60 centimeters in arbitrary levels of 10 centimeters each. Two definite cultural levels were encountered; one at 47 centimeters below the surface and the other at 58 centimeters below the surface. Small bits of charcoal were found in upper levels but no significant concentrations. The test excavation was not sterile at 60 centimeters rather; the work was discontinued because of large sandstone fragments which restricted excavation.

Four flakes of chipped stone were recovered in the excavation and although all the backdirt was processed through a screen with one quarter inch mesh, no other cultural materials were found. The presence of charcoal and the absence of other cultural material fits the pattern established in other excavations at rock art sites elsewhere in Carbon County. The absence of cultural deposits other than charcoal may simply





Fig. 4 A view into the alcove at the Tillett site. Female symbols are evident in the photo.



Fig. 5 An en toto pecked figure at ground level. The proximity of this figure and others to the ground suggests there may be buried art.

reflect the small areas excavated or it may represent a pattern in which some rock art sites were avoided for habitational purposes.

The Tillet site has excellent potential for future research. Although there is significant vandalism and graffiti at the site, the drawings are still sufficiently clear to record. The en toto pecked style drawings might be associated with some datable charcoal remains at the site. One en toto pecked human figure is situated at ground level (Fig. 5); other figures may be buried along the cliff wall. Such a discovery could be extremely important in trying to establish the age of the en toto pecked style.

### Crooked Creek (24CB205)

The site is located on the west wall of Crooked Creek canyon about two kilometers upstream from the mouth of the canyon (Fig. 6). It is situated at the top of a stable cone of soil built up against the wall of the canyon about twenty meters above the creek bed. Large juniper grow on this cone of soil while riparian vegetation is growing in dense stands along the creek.

The site was originally reported in 1951 by Franklin Fenenga who was working for the Smithsonian Institution River Basin Surveys. He assigned the number 24CB205 to the site. In 1962, Bobby Purcell, of the Billings Archaeological Society visited the site and assigned a second number, 24CB403. This second number was assigned to both 24CB205 and 24CB204.

The site was visited and partially recorded in 1969 by the archaeological crew from the University of Montana. Some photographs were taken of the drawings and one prominent petroglyph known as the "Medicine Man" was cast (Fig.7). The mold from this casting is still available for duplicates.

In 1971, the crew completing archaeological monitoring work on the nearby transpark road at Bighorn Canyon National Recreation Area spent time at the site. They made scale drawings of most of the petroglyphs and these drawings were included with some discussion of the site in a subsequent report (Loendorf 1971:89-96).

The Crooked Creek petroglyphs are pecked through a dark layer of desert varnish into a red colored sandstone or shale. This makes the

# Crooked Creek Site 24CB205

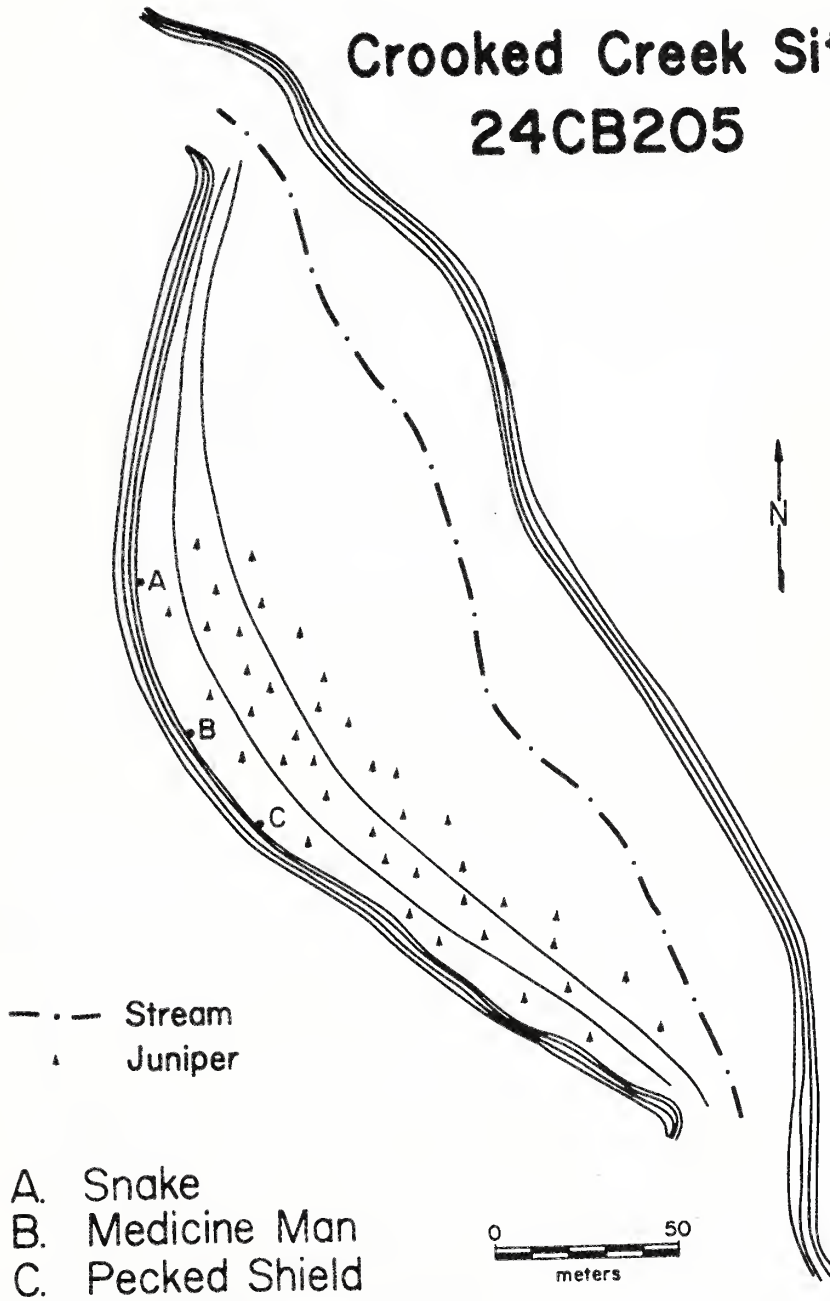


Fig. 6 Map of Crooked Creek Site - 24CB205.

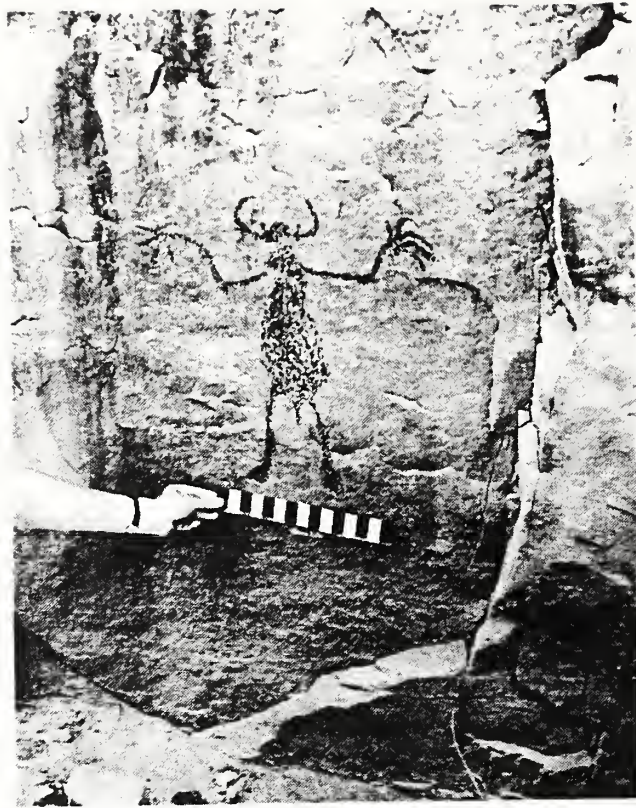


Fig. 7 The "Medicine Man" at the Crooked Creek site--24CB205. It is a good example of the en toto pecked style. Someone has filled the figure with charcoal to enhance it. Scale is 30 cm.



Fig. 8 The quadrupeds at 24CB205. Note the trailing lines of dots which extend out the front and back of the two in the right center of the photograph. The scale is 30 cm.

drawings stand out and gives them an aesthetic appeal. The artwork at the site is entirely pecked. It includes full views of humans complete with hands and fingers. One of these which has a horned head and up-raised arms has been named the "Medicine Man" (Fig. 7). Other figures include two profile views of quadrupeds which may be deer, a snake which appears to have swallowed something and several other less easily recognized figures (Fig. 8). A series of dots out the nose of one of the deer and elsewhere in the panel may be an important comparative attribute. At least two figures which appear to be shields made in outline form by pecking are important because they may offer some clue as to the beginning of shield figures. The other drawings at the site are done in the en toto pecked style which is found at Petroglyph Canyon (24CB601). It is not known where the Crooked Creek site fits in the chronology of Carbon County rock art. It is clearly in the en toto pecked style but it is not known at what point it occurs in the style. It is suspected that all the figures except for the pecked shields in outline form, were made early in the en toto pecked style. This assumption is based on several factors. The human figures are complete with hands and fingers, rayed lines from at least one figure and sexual characteristics. The human figures with all these attributes are believed to be oldest at Petroglyph Canyon. The drawings at Crooked Creek show humans with animals which is also believed to be old in the style.

Thirty six soil probes with a one inch diameter probe were placed along the base of the panel in search of buried cultural deposits. The probes were spaced about one meter apart and ranged in depth from ten centimeters to forty centimeters. All were sterile, but another excavation technique might expose greater depth in the deposits.

#### Joliet 24CB402

The Joliet site is located southwest of the town of Joliet, Montana. It is situated in an outcropping of Eagle Sandstone on the south side of Rock Creek. The artwork at the site has a northeastern exposure and the view from the site is excellent down the Rock Creek valley.

Juniper and pine grow on the sandstone outcropping and a variety of deciduous trees line the banks of Rock Creek. The sloping hill face at



Fig. 9 Profile view of a fine incised line warrior and his staff at 24CB402. The warrior is about 25 cm tall.



Fig. 10 Horses in an action scene at the Joliet site-- 24CB402. Note the long arching necks and small heads on the horses. The scale is 30 cm.

the base of the sandstone supports some pine with many yucca, sagebrush, ninebark and other lesser plants. The Joliet site is one of the better known rock art sites in Montana. Stuart Conner has presented information on the site in several published and unpublished reports (1971; 1980).

Thomas Lewis has spent considerable time recording the drawings at the Joliet site and presented his data in an unpublished report entitled "The Joliet Panels". Klaus Wellman (1979:123) presents data on the Joliet site with several photographs. The site is also mentioned for comparative purposes in several other published references (Conner 1984:134; 134; Loendorf 1984:87).

The artwork at the Joliet site is all petroglyphs (Fig. 9). If any painted designs were ever completed, they are no longer evident. The petroglyphs are in two obvious styles. One of these is the en toto pecked style of Petroglyph Canyon. It is especially noteworthy that an outlined shield bearing warrior, made by pecking, is situated adjacent to an en toto pecked figure at Joliet (Fig 13). This suggests a transition from en toto pecked figures to outline pecked figures but more importantly it suggests a transition from en toto pecked figures to shield bearing warriors.

The second obvious style of rock art at Joliet is the fine line incised figures. These figures include many horses which are drawn in the same manner as the horses in ledger art (Fig. 10). These distinctive horses are also depicted on hides, tipis, shields, drums and other painted Plains Indian articles in the period between AD 1800 and AD 1880.

There are also dancing warriors in the rock art at Joliet. Although not as common as horses and horse riding, dance scenes are also found in ledger art and on hides or hide articles in the the period prior to ledger art. The dance scene at Joliet shows warriors in full regalia dancing a victory dance or some other similar dance. One well made woman wearing clothing and ornaments and shown with her legs spread apart may be a witness to the dance (Conner 1984:134) (Fig. 12).

The similarity of the artwork at Joliet and ledger art makes it possible to offer some interpretation for the Joliet petroglyphs. The hairstyle of the warriors shows a high tuft of hair at the front of the

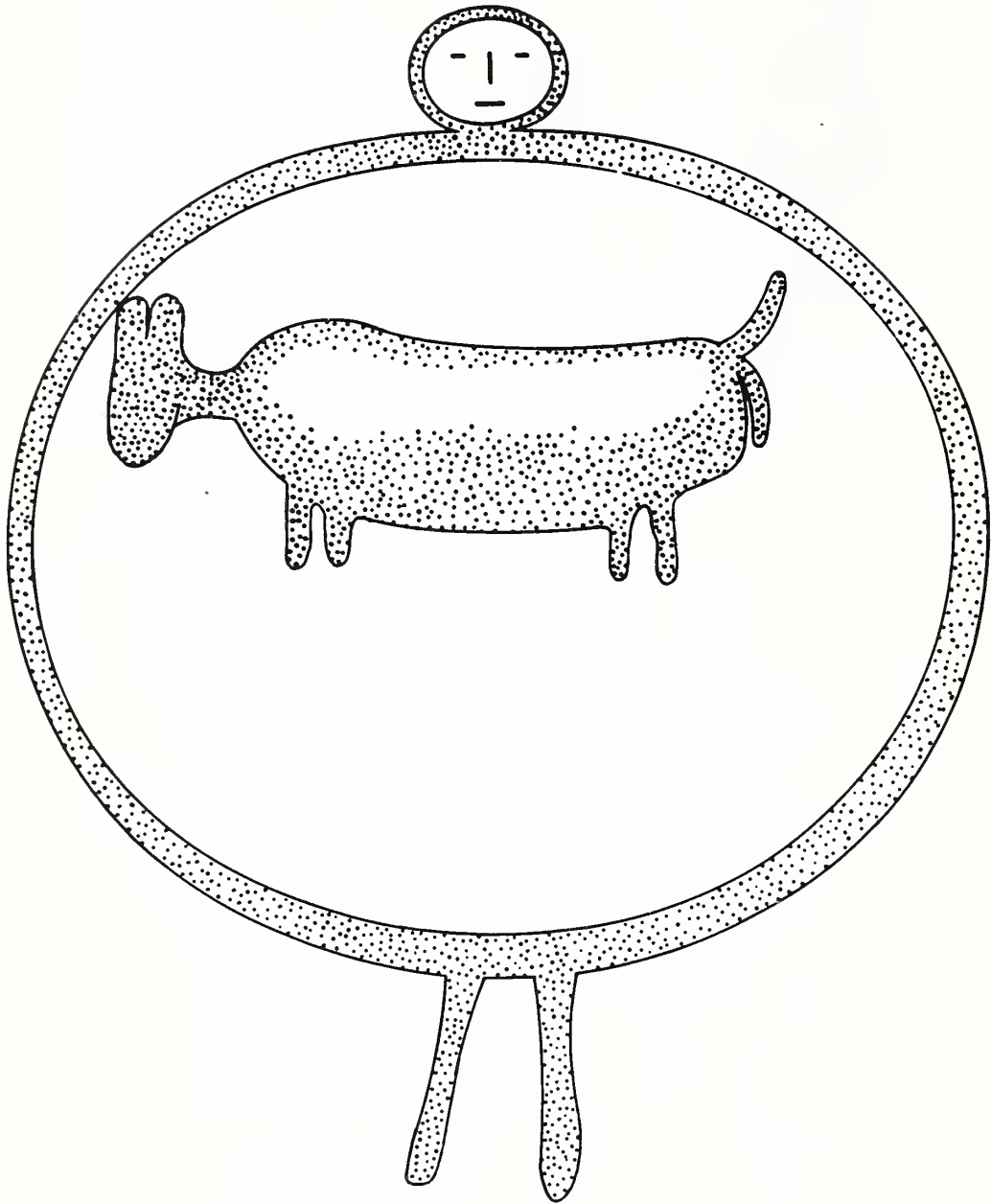


Fig. 13 The pecked outline shield bearing warrior at the Joliet site.



heads. This hairtype was used in many Plains Indian drawings to indicate the Crow Indians. Hairstyle was an identifying characteristic for most of the Plains tribes and it was often used in the sign language to indentify a particular tribe. The sign for the Kiowa was made by cupping the inverted right hand next to one's head to designate a particular hairstyle for the Kiowa where the hair was cut short on the right and left long on the left and in the back (Mooney 1893:150). The distinctive hairstyle of the Crow was likewise recognized by other Plains Indians and used in the depiction of them in ledger art or hide paintings. This fact was collected by W.P. Clark for the United States Army and submitted in 1884. Clark (1982:134) describes Crow hair:

The men cut the hair squarely off round the forehead, leaving this bang from four to six inches in length, which, when they are in full dress, is made to stand upright by dressing it with clay, which is sometimes made more adhesive by admixture with a sticky substance obtained by boiling certain gummy weeds and bushes. From this custom they are indebted for the pictographical designation, viz. "Hair-straight-upon-forehead."

The Crow themselves usually painted their people with a high tuft of hair at the front on top of the head. More precise recognition for an individual or a member of a military society was shown by designs on horses, name glyphs, designs on shields or including the proper gear such as a crooked shaft for members of a particular society which carried such an instrument. But tribal identity was most often shown by hairstyle.

Many of the warriors shown at Joliet have a Crow hairstyle. Since the scenes show horse raiding and victory dancing it is doubtful they were done by some other Plains tribe to show the success of the Crow. It is quite likely that the fine incised line petroglyphs at Joliet were made by historic Crow Indians.

There is probably at least one more type of rock art at Joliet. It includes several deeply incised or grooved figures which are done mostly in outline form. Prominent among these figures are two large bears, (Fig. 11) several smaller bears and several pedestrian shield bearing warriors. These figures and this artwork was likely completed after the en toto pecked figure and before the fine line ledger style.

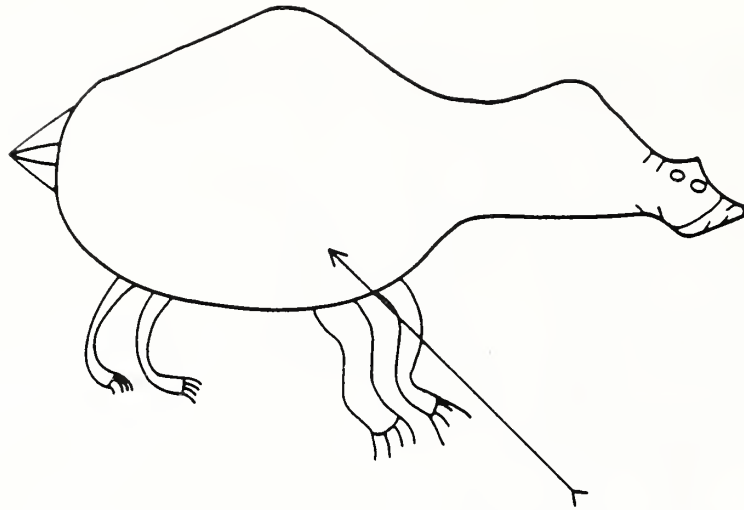


Fig. 11 One of the two large bears at the Joliet site--24CB402. Note the hump in the neck and dish face which suggest it represents a grizzly. Note also the attention shown the front limbs and the artist's convention of showing two eyes on one side of the head.

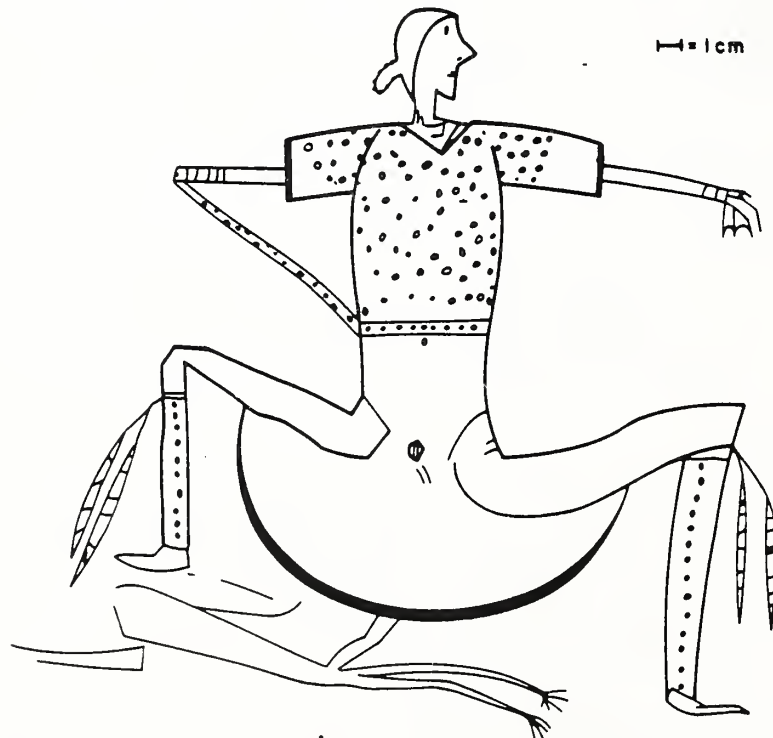


Fig. 12 The squatting or dancing woman at the Joliet site--24CB402. She appears to wear a dress which is decorated with elk teeth. The figure below her may be engaged in sexual intercourse with her, but the relationship of this figure to the dancing male warriors nearby is unclear.

The potential for research into rock art is extremely good at the Joliet site. A test excavation (1m X 1m) at the base of the panels near the northeastern terminus of the site revealed two distinct cultural levels. One level was just below the sod and extended almost continuously to a depth of 30 centimeters. There may be multiple occupations represented in these deposits which are associated with the historic utilization of the site. A second level was found at 40 centimeters and continued to a depth of 47 centimeters below the surface. The excavation was discontinued at 50 centimeters below the surface although there is potential for deeper deposits.

Two Carbon 14 samples from this lower level were submitted for dates. One sample was from the upper part of the charcoal and the second was from the bottom. Although the charcoal was more or less continuous it did not appear to be part of a prepared hearth. The lower sample was from a small pocket of charcoal which was originally thought to represent another lower level. The two dates suggest otherwise. The upper sample date was  $130 \pm 60$  B.P. or A.D. 1820 Beta - 13357 and the lower date was  $130 \pm 70$  B.P. or A.D. 1820 Beta - 13358. The two dates show sufficient correspondence to suggest they are reliable. Corrected radio carbon dates in the recent past usually increase the margin of error as in this case where the corrected dates are A.D. 1620 to A.D. 1950. Obviously, some of the historic drawings at the Joliet site were done in such a wide range.

If the uncorrected date of A.D. 1820 is accepted as it is, it may date the fine incised line art at Joliet or it may date the deeply incised art. Since it represents the second cultural level encountered beneath the surface the dates may be associated with the deeply incised figures, such as the large bears. The en toto pecked figure and the pecked outline shield figure may be associated with more deeply buried deposits.

No other artifactual debris was recovered, only charcoal. This may be the result of the location of the deposits sampled by the test excavation but it may also indicate the absence of debris other than charcoal. If fires were built at the base of the panel for signal purposes, to illuminate the petroglyphs, or possibly to obtain charcoal for paint, there would not be much other debris. Occupational debitage

should not be expected at the base of all rock art sites. In the case of the Joliet site, one might predict occupational debris down on the flat areas adjacent to the creek. The area at the rock art may have been used for look out or signal purposes. Additional excavation at the base of the panels would aid in understanding the reason for the charcoal and the absence of other cultural debris or if our test excavation was simply placed in an area devoid of cultural material other than charcoal.

Other research at the Joliet site might allow some more refined interpretations. It might be possible to identify other tribes by hairstyle, clothing or associated gear. Tracing is probably the most practical means of recording the petroglyphs because they are so difficult to see. Photography with various lighting conditions should be used to supplement the tracing. The written description of locations of various drawings by Thomas Lewis will aid any future work.

The branded horses at Joliet have good potential for study (Fig. 31). Plains Indians did not brand their horses until forced to do so by Indian agents in the 1880's. This means that more than likely, the branded horses at Joliet represent stolen horses from white ranchers. It may be possible to identify the ranches from which the horses were stolen and learn when the theft took place.

#### Hilej (24CB406)

The Hilej Pictograph site is located about 1 kilometer upstream of the bridge on Highway 212 which crosses Rock Creek about 2 kilometers south of Joliet, Montana. The site is situated on a narrow ledge of sandstone cliff which is about 20 meters above a branch of Rock Creek. The narrow ledge supports some small vegetation but no large bushes or trees. There is very little soil accumulation on the ledge and the possibility of buried cultural deposits at the base of the rock art panel is negligible.

The Hilej site has been previously discussed by Conner and Conner (1971), Wellman (1979), and Grant (1983) contains a color photograph of one of the shield bearing warriors found at the site. Stuart Conner assigned the site its original site number in 1964. He has also prepared several memoranda about the site over the past 20 years.

The rock art figures at the Hilej site are extremely faint. They seem to appear more brightly under certain conditions or at certain times of the year. This may be related to the amount of moisture in the sandstone or some other less understood characteristic of the site.

The figures which can still be seen include three shield bearing warriors painted in red, black and red, and black. These figures are each about 70 centimeters in height. There is also a much smaller shield bearing figure painted in orange. The latter figure is near the point where one enters the narrow ledge from the north while the other three are positioned side by side to the south near the center of the ledge.

The Hilej site has been known and written about since June 2, 1935, when an article on the site appeared in The Midland Empire News. Several things in this article are of interest. The shield bearing warrior figures at the site were identified as representations of thunderbirds. The reason for this incorrect identification is unknown, but it shows the lack of understanding for rock art sites 50 years ago. The article implies that the artists of the figures were the Crow. However a Crow Indian was asked the meaning of the drawings by the landowner some 70 years earlier and he did not know what they were intended to represent.

The drawings at the Hilej site are badly faded. The current landowner does not appreciate people wandering through his property to see something with so little integrity. The site is not worthy of additional research; with respect to the landowner, it should not be visited.

#### Cedar Creek Rockshelter (24CB407)

The pictographs at this site line the inside walls of a small eggshaped rockshelter. The inside of the shelter is dissected into smaller panels by the natural ridges in the walls giving it a pocked appearance. These natural boundaries were incorporated into the art so that many of the geometric figures follow the contours of the pockets.

The artwork represents several types of images including; animals, a bird, a possible shield bearing warrior, a large shield, an anthropomorph, various faded lines and geometric figures, and several elliptic forms with horizontal or vertical lines inside them. The large shield (50 cm X 50 cm long) is the central object in the panel. It is very similar to the shield at the Langstaff Pictographs (24CB413). Both of these large shields are outlined in black fringe and have symmetrical inner designs. Four perpendicular lines with fringe bisect the center of the Cedar Creek shield.

There are three animal figures, all upside down or on their heads; one of these may represent a slain bison. Torsos have been painted solid in two of the animals. A bird is also painted solid and is in good condition--its wings and tail show a fair amount of detail. Interestingly, it is located on the ceiling of the rockshelter just under the entrance lip. This may be an intentional symbolization of its geographic relationship to the sky.

The human figure has a rectangular body with its arms outspread. He seems to be holding several shafts as indicated by the six vertical lines running through his right arm. Its face is detailed with two solid eyes and a long nose. A very small, possible shield bearing warrior exists on the eastern periphery. Only a shield and two legs protruding from it are visible. Natural erosion due to exfoliating sandstone has obliterated the peripheral areas of the panel. Photographs were taken of the panel and a scaled sketch was made.

Charcoal was noticed eroding out of a low shelf in the east wall of the rockshelter. This shelf may have served as a sort of painter's pallet. This interpretation may be quite valid since there is no evidence of smoke stains or redness around the sandstone which would likely have resulted if the charcoal was from an in situ fire. A C-14 sample was collected from this shelf and an 80 cm X 50 cm test pit was dug to a depth of 25 cm in front of the shelter. The irregular shape of the unit was due to the sandstone bedrock around the shelter entrance. A fair amount of charcoal was recovered from this excavation unit; however, there was much recent duff intermingled with it and the charcoal may represent a recently burned tree limb or bush stem. No cultural material was found on the ground surface or in the excavation unit backdirt.

The Cedar Creek Rockshelter was first recorded by the Billings Archaeological Society in the early 1960's. At that time it had been photographed and sketched. An article on the site by Don Nordstrom appeared shortly thereafter in "Trowel and Screen" 5 (4).

The rockshelter is located in a conifer slope/juniper breaks transition zone on the southwest slope of a ridge along the northern edge of Cedar Creek. The pictographs face south overlooking a large sage flat next to Cedar Creek. No cultural material was found on this flat. Cedar Creek #2 (24CB410) is located approximately 70 meters southwest of this on the same slope contour.

#### Provinse Pictographs (24CB408)

The site is located in a small rincon of sandstone to the north of the Weatherman Draw (Fig. 14). An intermittent stream flows down Weatherman Draw to a junction with Cottonwood Creek about one kilometer west of the site. The sandstone rimrocks support stands of pine and juniper while the drainage bottoms are covered primarily with sage and grasses. The Provinse site was named after John Provinse, an anthropologist, who visited the site in the latter 1920's or early 1930's. Later he gave photographs of the site to the Billings Archaeological Society and in 1964 Stuart Conner assigned the site its number (Conner memorandum of 3/4/64). The site is also known by other names; Castle Coulee (Wyoming Archaeologist Vol. V, #3, p.22), Cottonwood Creek (local Bridger residents name) and Weatherman Draw (Bureau of Land Management name). Many others have visited the site including professional and avocational archaeologists. O.J. Salo, a well known artist from Red Lodge, Montana, painted replicas of some of the rock art at the site at some unknown time in the past. These paintings were shown at the Montana Archaeological Society meetings in Billings in 1961 by Vern Waples, a game warden from Red Lodge. The paintings were done on oil cloth or canvas; their present location is unknown (Conner memorandum dated 3/4/64).

In 1965, the senior author of this report visited the site with several members of the Billings Archaeological Society and completed a partial recording of the rock art (Loendorf 1968; Conner memorandum

# Provinse Pictographs 24CB408

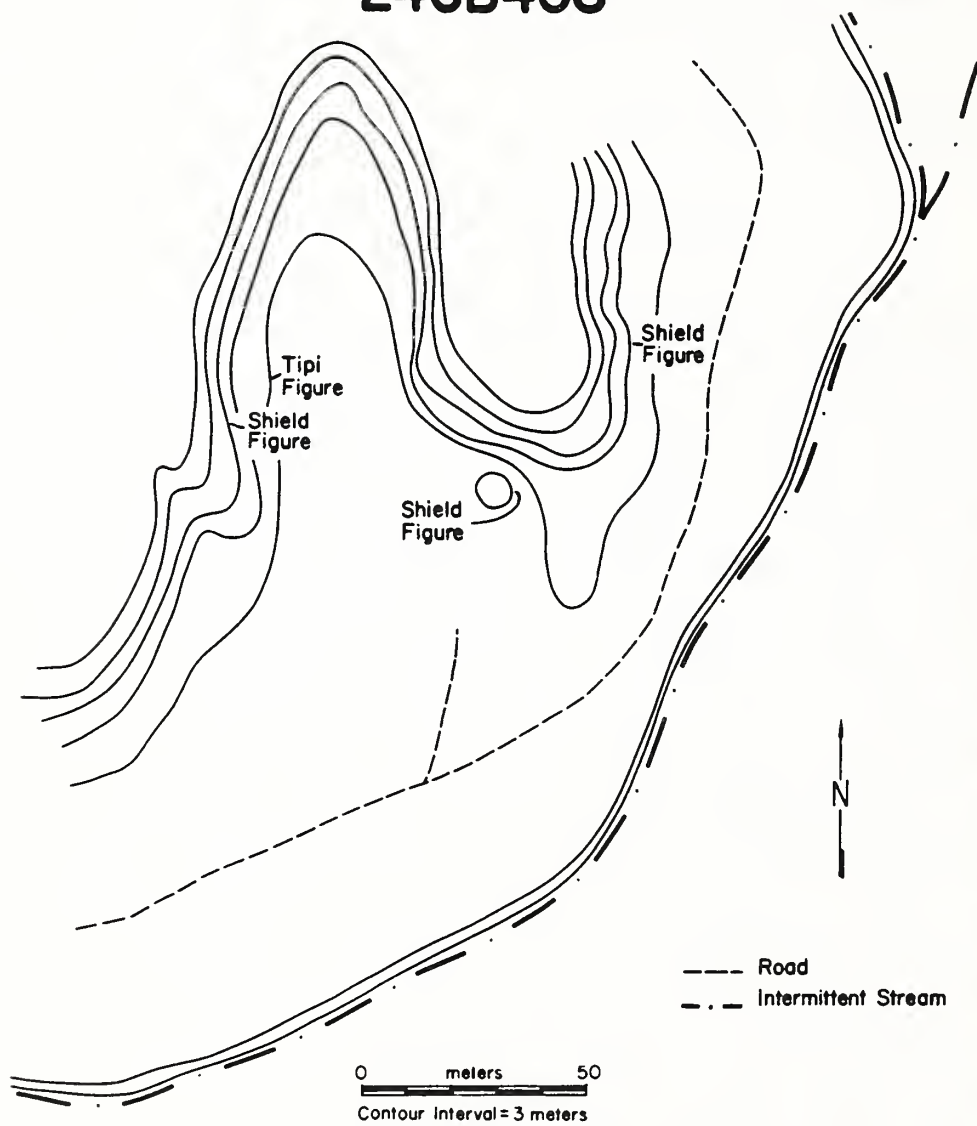


Fig. 14 Map of Provinse Pictographs - 24CB408.



dated 1/22/66). In 1969 the site was visited by Charlie Steen of the National Park Service. Steen was involved in an experimental program to apply a substance named Pencapsula to rock art to retard erosion. Steen put the substance on one of the shield figures at the Provinse site. In 1984 the Bureau of Land Management contracted with Stuart Conner to photograph all the art at the site and these photographs are on file with the Billings area office of the Bureau of Land Management.

Several others have also visited the site and written notes, traced the art or photographed the drawings. Although not a complete list, the following are known to have completed some recording at the site; Amos and Ann King, Nick and Ruby Becker (all of Bridger and all deceased except for Ann King) Thomas Lewis, William Vincent and Gary Leppart (all of Billings). A published article by Lewis (1984) discusses the Provinse Site and other nearby rock art sites.

Two distinct kinds of art are found at the site. One is painted shields and shield bearing warrior figures (Fig. 15). Some of these shields have polychrome designs and all are decorated in some way. A yellow orange tipi complete with its cover is found with the shields (see frontispiece of Memoir 19 of the Plains Anthropologist for a color photograph of this tipi). A large black male human figure with an oversize phallus may be associated with the painted shields and shield bearing warriors but the only evidence to support such an association is the fact that all are painted (Fig. 16).

The second obvious style of rock art at the site includes some fine incised line petroglyphs. These figures include a shield design and several fringed objects which resemble pipe bags. All of these figures which are dim and hard to see, were discovered by Stuart Conner in 1965. The fact that many persons have written their names across them suggests they are seldom seen by the average visitor.

In 1985 we used a soil probe with a one inch diameter to search for charcoal or other cultural deposits at the base of panels at the site. One well defined level and a possible second level was found on the flat area about 15 meters east of the panel with the painted tipi and shield and the fine incised figures. Charcoal was not found in other locations, but the fill in the area is likely quite deep. We may not have reached cultural levels with the hand pushed probe. An attempt to use



Fig. 15 The rincon which contains some of the Provense site--24CB408. Painted shield figures and the painted tipi are on the wall to the left.

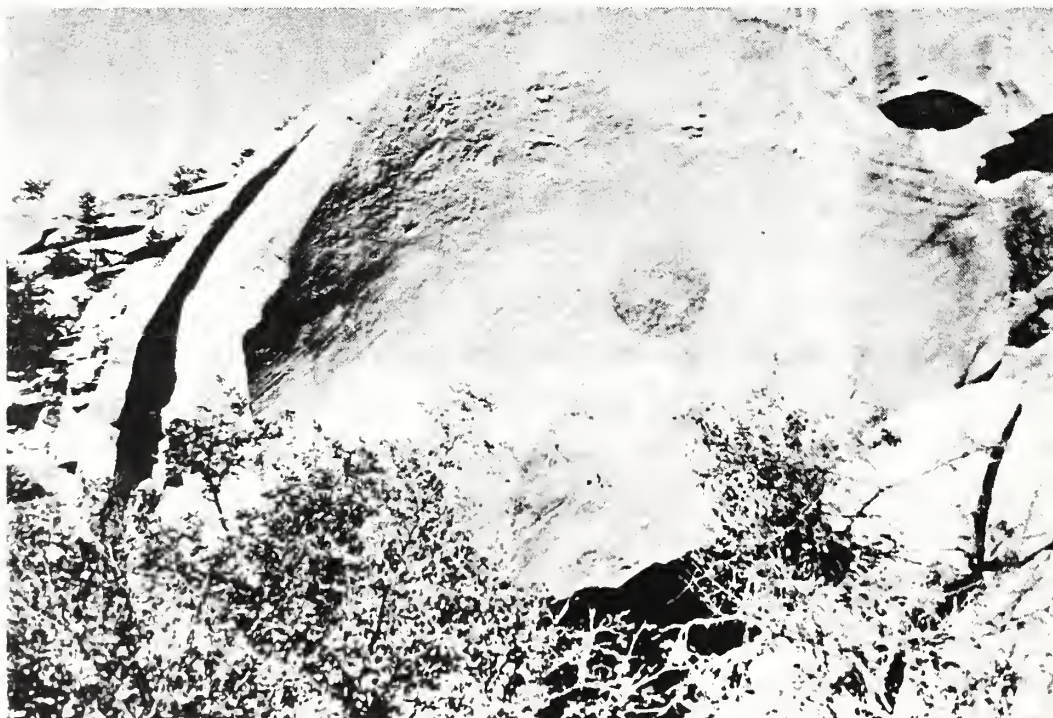


Fig. 16 An isolated boulder at the Provense site (24CB408) with two painted shields. The phallic male figure is on the bottom of this boulder in the small alcove.

the power auger at the site and obtain samples from greater depths was thwarted by a rainstorm.

#### Cedar Creek #2 (24CB410)

The Billings Archaeological Society first reported this site in the early 1960's. Harold Hagen found the site while recording the Cedar Creek Rockshelter (24CB407). The site has so far remained unnamed but its official number is 24CB410.

The pictograph panel is located on the backside of a large sandstone block that had broken off of the cliff face. The panel faces northwest onto the ponderosa pine covered ridge it rests against. Cedar Creek runs approximately 30 meters below the panel to the southeast.

Considerable fading and exfoliation has made it difficult to decipher the three figures on the panel. A large probable shield bearer (44 cm long x 25 cm wide) outlined in black is the only figure which can be interpreted with any reliability. The figure's head has eroded off its neck since the panel was first recorded in 1964. Hands and weapons are absent but legs and possibly an elongated penis are present. The shield is decorated with curved lines. The other painted objects include a red elliptical form and a black and red fringed line design.

No cultural material was found on the site ground surface and potential seems low for recovering any subsurface material since there is little sediment built up here. Sketches were made to scale of the panel.

#### Antler Ranch (24CB412)

In 1964, Stuart Conner wrote a short note on the Antler Ranch site; in that note he indicated that Carl Barz of Billings, Montana, had given him some sketches of petroglyphs and a legal location for the site. When Conner checked the location he learned it was in Carbon County on the east side of the Pryor Mountains and assigned the site a number, 24CB412. (Memorandum by Conner dated October 14, 1964 on file in the records maintained for archaeological sites at the University of Montana).

This site was not found during any of the numerous archaeological surveys in the area. In 1982, Stuart Conner asked Carl Barz for additional information and learned the site was on DryHead Creek near the well known buffalo jump at what he called the headquarters of the Antler Ranch. This was still confusing since the ranch near the buffalo jump has always been known as the DryHead Ranch; it is so labelled on USGS maps and on all other maps since the 1950's. The well known Antler Ranch is on the east side of the Bighorn Mountains nearly a hundred miles from DryHead Creek. Furthermore if the site was "back of the Antler Ranch barn" as the memorandum stated, there was no barn on DryHead Creek near the buffalo jump.

In 1985, we decided to solve the mystery of the location of the site. At the DryHead Ranch we found Dennis and Carol Rule as the present day caretakers. They informed us that Antler did once own the ranch and that there used to be a barn, but it burned down.

Along the cliff face behind where the barn stood and in the present day corrals, we found the site. Although cattle now rub against the sandstone cliff face and appear to have obliterated some of the glyphs, we found eight of the thirteen petroglyphs originally sketched by Carl Barz. In addition we noted several other glyphs. These included numerous tool grooves and vaginal symbols. Some of the drawings are in a small narrow cave which goes into the rock about two meters. One needs good light to work in the cave, but it appeared some of these drawings might be buried by sediment.

The site is located in the NW $\frac{1}{4}$ , NE $\frac{1}{4}$  of Section 9, Township 7 South and Range 28 East; the former location placed the site in the correct township and range but in the wrong section. The former location was in Carbon County; the correct location is in BigHorn County. The site number should be changed to reflect its proper location.

Our research at the site was incomplete. Once it was learned the site was out of Carbon County, we decided to save it for extra work if we completed our assigned research. We did not have sufficient time to return to the site.

Langstaff (24CB413)

The Langstaff Site is located on a south facing sandstone outcrop bordered by cultivated fields. The pictograph panel faces south-south-east on a vertical backwall of a small rockshelter near the base of the outcrop. Surrounding landscape includes gently rolling foothills and some steep sided hills of both grassland and juniper breaks/ ponderosa pine ecozones. Sand Creek lies approximately 1 kilometer to the west.

This property was homesteaded by the Langstaff family in the early 1900's and they have been aware of these pictograph panels since about 1916. In the early 1960's, Kenneth Feyhl, a Billings area avocational archaeologist found the site. Shortly thereafter Andrew Langstaff guided a group from the Billings Archaeological Society to the site for recording purposes. Andrew Langstaff served as a guide to the site for the present study as well. In 1983, Thomas Lewis visited the site and made several sketches.

The Langstaff panel consists of painted figures, some of which are enhanced by incising, pecking and/or rubbing. All the paint is black and may have been applied wet as coverage is fairly even. One completely incised glyph of unknown meaning was found below the shield bearing warriors (Fig. 17). The painted panel is approximately 2.4 meters long by 50 cm high and includes a bear; presumably a grizzly bear, because of its large hump, a shield, and two shield bearing warriors. The bear is in side view and only his front half is visible, measuring 70 cm long X 24 cm high (Fig. 18). He is somewhat box-like both his snout and ears are squared-off and he is painted solid. His eyes, mouth and claws have been rubbed or pecked and incised in. The latter are particularly difficult to see. Next to the bear is large shield (31 cm X 32 cm) outlined in black with short thick fringe around all but the top of it. Inside the shield are two vertical ovoid areas that were rubbed in; one of these has several black marks inside it. Two incised bird heads rise out of the ovoids. To the right are two shield bearers in outline which may have been done in charcoal. Both have tear streaks coming from their eyes and are wearing some sort of headgear. The larger figure (50 cm long X 26 cm wide) has a four pointed star rubbed onto its shield and is holding a long black club in



Fig. 17 The alcove at the Langstaff site--24CB413. The bear and shield figures are visible near the center of the photograph.

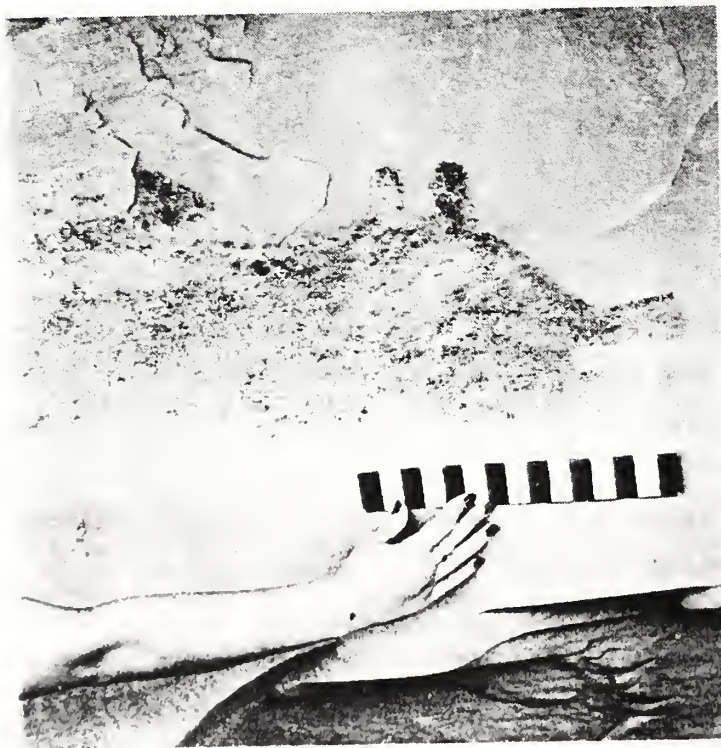


Fig. 18 The large bear at Langstaff site--24CB413. Note the two eyes and large teeth. The scale is 30 cm.

its hand. The smaller figure to the left has no shield design or arms present although a possible weapon of sorts does protrude from his right side.

While no modern graffiti is present, very faintly incised lines exist over 10% of the panel. It is unknown if these lines were done as recent vandalism or were an early attempt to obliterate the panel. No cultural material was located on the ground surface in front of the panel and all soil probes were sterile. Sketches were made of the panel and photographs taken.

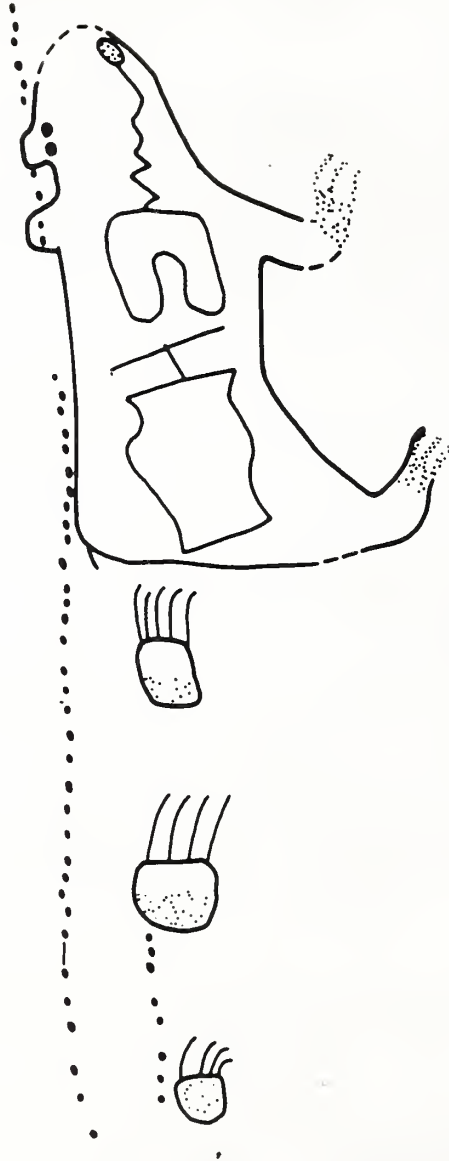
#### Krause (24CB417)

The Krause site is located on a massive southeast facing cliff wall roughly 8 kilometers east to Edgar. A large talus slope below the rock art panels leads down into a rolling grassy valley which contains a small creek and holding pond created by a recent dam. Vegetation along the wall is primarily juniper.

This site was officially recorded in the late 1960's by Harold Hagen, a Billings Archaeological Society member and designated 24CB417. O.V. Krause of Silesia, Montana, served as the informant for the site. At that time the landowner mentioned dredging through several hearths in the course of building the dam. Several chips of jasper and obsidian, as well as a stemmed point were found at the site. No cultural material was recovered during the present study from the ground surface or from the soil probes placed in front of the panels.

Several panels spreading over a kilometer long area make up the Krause Site. All of the panel are petroglyphs and all three techniques; incising, rubbing, and pecking are evident. The principal glyphs include a large bear with a series of bear tracks trailing behind it (Fig. 19). A shield figure pecked in outline form which is important as another example of the outline pecking thought to post date en toto pecked figures. One incised figure at the Krause site appears to be a tipi and another is a shield bearing warrior. Tool grooves are found at several locations along the cliff face. There is also potential for other undiscovered rock art at the site. The landowner does not like to have people wandering through his property to see the site. With respect for his wishes, the site should not be visited.

**Krause Site  
24CB417**



--- Reconstructed Line

— 10 cm

Fig. 19 Large two eyed bear at Krause site.



## Bear Creek (24CB476)

The site is located in a series of natural limestone arches along the front of the Beartooth Mountains overlooking Bear Creek. Three arches span the top of a sheltered area with two windows, one between each arch, open to the sky.

Two streaks of red paint were found on the wall of the sheltered area under the largest arch in 1966 (Loendorf 1967:77). The streaks are barely visible. Although considerable effort was expended to find other drawings, none were found.

The position of the site, several hundred meters above the surrounding terrain, suggests a vision quest setting. There is not, however, any evidence that a vision was ever sought at the site such as a fasting bed or some other arranged rock feature. It is not known how the streaks of paint got on the cliff nor what their meaning is intended to be.

## Petroglyph Canyon (24CB601)

The Petroglyph Canyon site is one of the more significant rock art sites in Carbon County. The site was listed on the National Register of Historic Places on November 20, 1975. During the summer of 1982 intensive recording was completed in Petroglyph Canyon by Dennett, Muessig, Ryan and Associates and the University of North Dakota. This work was completed under a contractual agreement with the Bureau of Land Management and the results of the project are presented in a published report (Loendorf 1984).

Petroglyph Canyon is located south of Big Pryor Mountain several kilometers. It is near the near the Montana/Wyoming border a few kilometers north of the town of Frannie, Wyoming.

Most of the rock drawings in the canyon are made by totally pecking the figures (Fig. 20). This technique for make petroglyphs led to the creation of the en toto pecked style which is described elsewhere in this report (Fig. 21).

Several test excavation units were dug in Petroglyph Canyon. One of these produced abundant cultural debris including chipped stone artifacts and flakes, heat cracked stones, burned and unburned bone and



Fig. 20. Typical en toto pecked style figures. Scenes often show humans standing beside humans in portrait fashion. The figures at Petroglyph Canyon, 24CB601, were chalked by someone other than the authors.



Fig. 21 Animals and sitting humans in the en toto pecked style. Animals and humans in the same scene is believed to be at the beginning of the style. The figures are at Petroglyph Canyon--24CB601.

some shell fragments. Charcoal associated with this material was radiocarbon dated at AD 850 and AD 1150. These dates have been tentatively assigned to the en toto pecked style of rock art in Carbon County. It is interesting that the excavations in Petroglyph Canyon produced so much cultural material. Other excavations completed at rock art sites in Carbon County have produced charcoal but little other evidence of habitation.

#### Beehive Rock (24CB618)

Beehive Rock is an erosional remnant shaped like its name and found on the end of Youngs Point. Youngs Point is a ridge overlooking the Yellowstone River valley near Columbus, Montana.

The rock art at the site includes tipis, human figures (two with elaborate headresses), a shield bearing warrior, geometric figures and interconnected circles. All of the drawings were made in the fine incised line style. They are presently very faint.

Dozens of initials and names from visitors to Beehive Rock have nearly destroyed the art as many of these names are over the drawings. The initials and names, themselves, may have some historical significance.

Beehive Rock was originally recorded by Stuart Conner and Ken Feyhl in 1966. Since then Thomas Lewis has reported the site in the Wyoming Archaeologist (1982). A hearth was noted in 1966 eroding out near the rock art at the site. This eroded hearth was still visible in 1985, but beyond salvage. Some flaking debris was noted in eroded areas of the site but no tools were recovered. Twenty five probes with a soil auger were put into the deposits below the rock art panels at Beehive Rock. Although several of these went to depths of 30 centimeters, charcoal was only found in one probe. This probe was a few meters west of the eroded hearth. Excavation might reveal intact cultural deposits in this area.

#### Red Hands (24CB620)

The site is one of four sites in the same series of sandstone rocks (Fig. 22). It is located on the outside of the natural rock corral

# Site Locations in the Natural Corral

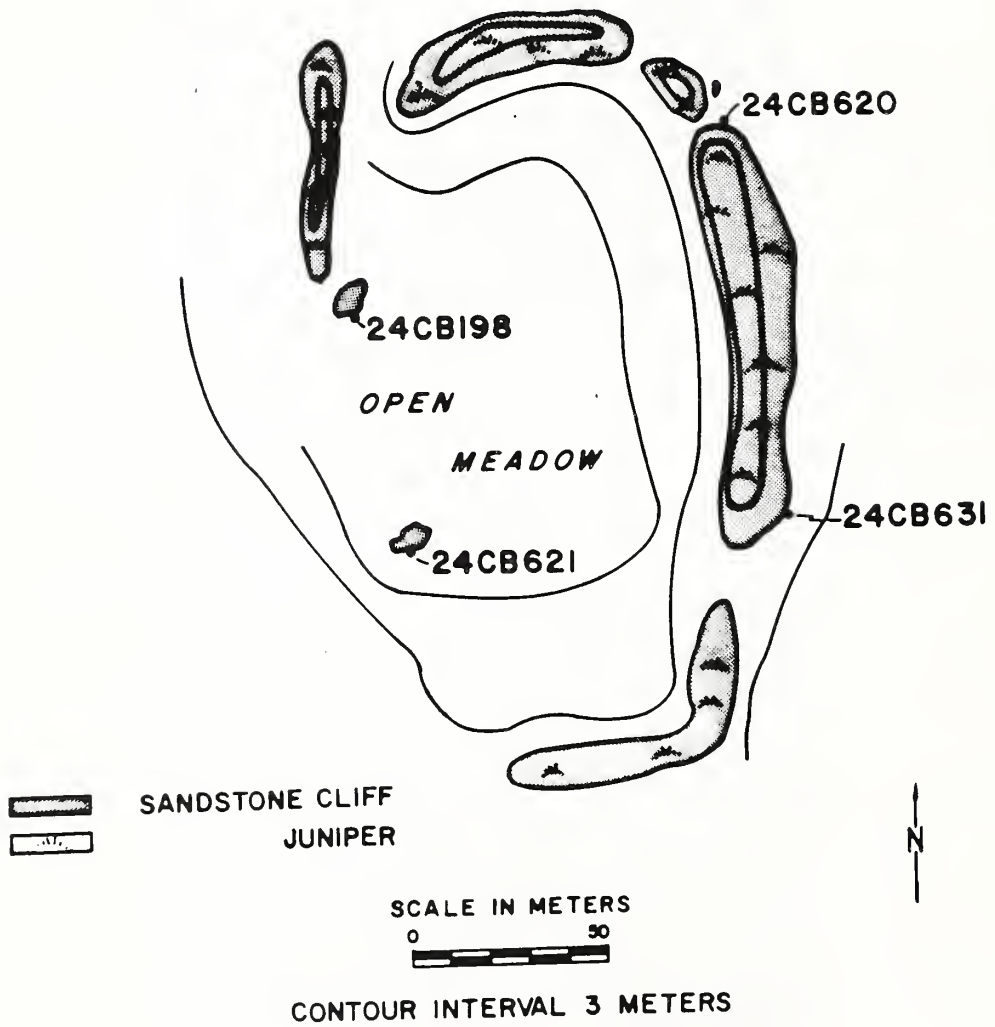


Fig. 22 Site locations in the Natural Corral.

about two kilometers north of the Provinse Pictographs in Weatherman Draw.

The site is on a sandstone rock with an eastern exposure. Two very faint red hands are painted on the vertical surface of the sandstone in a shallow alcove. Some other faint scratch marks may have once been petroglyphs, but they are too faint to decipher. The red hands are also so faint, they must be seen with good lighting conditions.

Soil probes in the deposits beneath the drawings produced a layer of charcoal about ten centimeters below the surface. This level would likely produce cultural debris and sufficient charcoal for radiocarbon dating. The poor quality of the rock art at the site makes excavation as an aid in dating rock art in Carbon County hardly worth the effort.

#### High Corral (24CB621)

The site is one of four sites on the same sandstone outcropping or on boulders near that outcropping (Fig. 22). It is located about two kilometers north of the Provinse Pictographs in Weatherman Draw.

The High Corral site was discovered by William Vincent in 1973. On some photographs the site is referred to as 24CB408 (K).

The drawings at the site are all made by incising or rubbing the sandstone. Two are incised geometric designs; one a box of crossing lines and the other an oblong rectangular outline which is bisected by two straight lines. There are also some designs which are labeled as female genitalia. They are oval shaped areas ground into the rock surface. Some have incised lines around them or through them.

Ten soil probes were taken at the base of the panel. The soil was heavily compacted by cattle having stomped on it and it was nearly impossible to obtain a good probe. Other testing techniques at this site might reveal subsurface cultural materials.

The proximity of the High Corral site to the large bear (24CB198) and the human pecked figures (24CB631) suggests some association. There are similar designs as those at the High Corral site at Petroglyph Canyon (24CB601-Panel I) but it is not known whether they were done at the same time as the en toto pecked style or at some other time.

### Bone Cliff (24CB628)

Bone Cliff is a small petroglyph site containing three finely incised glyphs on three panels. Two of the glyphs are anthropomorphic figures. One of these has arms, hands, legs, and feet present, however, no digits are visible, and the face is blank. This figure is wearing a short cloak. The other anthropomorph has considerably less detail with only one arm and no legs in view. The body is filled in with many vertical lines. Its head was rubbed or pecked in. The third glyph is of a rather crude outlined tipi.

The Bone Cliff petroglyphs were found recently by Thomas Lewis and were designated 24CB628. Several sites have been noted by local informants as being located on this cliff. These include human burials and a possible buffalo jump. The cliff is littered with bleached bones, hence the name. The panel is located high up on the southwest face of a massive sandstone cliff that forms a deep northwest trending canyon. Vegetation is predominantly sage and other brush; juniper and ponderosa pine exists on the cliff top.

Despite reports of large quantities of cultural material coming from this ridge no artifacts were found on the ground surface or in the soil probes. All twenty soil probes placed in front of the panel were devoid of charcoal. A sandstone shelf was hit at 25 cm below surface while probing. Photographs were taken and sketches made of the glyphs. The former are difficult to view because of the natural erosion which has made the glyphs difficult to see.

### Elbow Creek Petroglyphs (24CB629)

Tom Lewis, a Billings area vocational archaeologist, found the Elbow Creek Petroglyphs in October, 1981. At that time he noted eight glyphs which were photographed and sketched. The site was later designated 24CB629. The petroglyphs are located about  $\frac{1}{2}$  kilometer southeast of the Joliet site (24CB402) at approximately the same elevation on the east side of the ridge. This ridge lies between Rock Creek to the north and Elbow Creek to the south, and borders a cultivated field to the east. A recent fireplace/campsite is evident nearby. The predominant vegetation is ponderosa pine.

The glyphs at Elbow Creek include a variety of very finely incised zoomorphs and anthropomorphs in three panels that form a small alcove. Twelve separate glyphs were observed during the present study. Several of the figures can be identified as horses, one of which includes rider. The anthropomorphs include three cloaked figures similar in style to those at Joliet. Another human figure is holding what appears to be a rope. One figure, which is riddled with bullet holes, has been interpreted as a female in copulating position; however, it was not possible to verify this during the present study. Modern graffiti exists, to a small degree, in the central portion of the middle panel. Natural erosion of the sandstone surface is the prevailing cause of difficulty in viewing the panel. The panel was photographed in mid-morning light (10:30 A.M.) which seems to be the best time, and was traced onto plastic.

No cultural material or charcoal was recovered in the soil probes placed in front or the around the panels. In addition, no artifacts were found on the site surface. Based on this information the possibility of finding any subsurface cultural components at this site is probably low.

#### Bear Two Shield (24CB630)

The site is located in the series of rock art sites in Weatherman Draw south of Bridger, Montana (Fig. 23). It is about  $\frac{1}{2}$  kilometer northwest of the Provinse Pictograph site. The site is situated in the mouth of a short box-like canyon which opens to the south. Several large pine trees are found on the site intermixed with juniper, sage and abundant rye grass.

The site was discovered and reported by Gary Leppart and Thomas Lewis in 1983. It was included in the sites which received intensive photographic recording by Stuart Conner in 1984.

The rock art at the site is primarily painted. It includes two designated panels, one on the west face of the canyon wall and the other on the east face. The west facing panel has been given the number one. It contains a series of red dots and short vertical lines. Some of these are in pairs. There are also some faint scratches on a boulder near this panel but they have no recognizable form.

# Bear Two Shield 24CB630

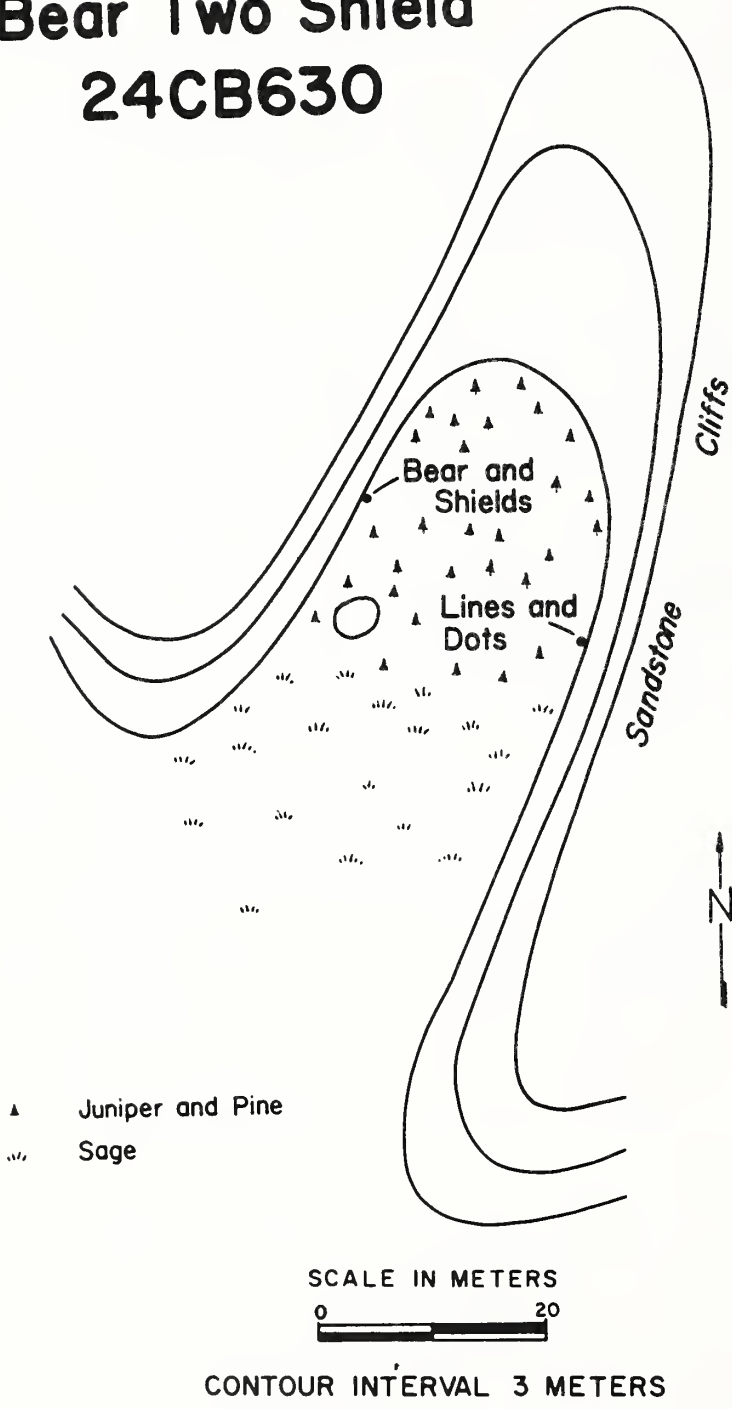


Fig. 23 Map of Bear Two Shield - 24CB630.



The second panel is on the east facing wall. It contains a large red and black bear with fore legs, claws and the head displayed in the greatest detail. Erosion on the cliff face has damaged the bear extensively. There are also two shield figures and one V-necked warrior. One shield bearing warrior has a colorful red, yellow and orange shield and another is done totally in black.

The canyon floor was tested initially with a one inch diameter soil probe. Charcoal was found beneath the slightly overhanging cliff at the south end of the red dots and vertical lines. Subsurface sandstone fragments limited the utility of the probe because this stopped it from going to depths of more than 40 to 50 centimeters. To remedy this problem and to better explore the subsurface deposits of the site we dug a series of auger probes with an eight inch bit. Most of the probes exceeded depths greater than one meter. All backdirt from the probes was screened through  $\frac{1}{2}$  inch mesh. The earlier discovery of charcoal near panel one was confirmed with the auger. Several heat reddened fragments of rock were found with small flecks of charcoal. Charcoal was also found in the deposits beneath the bear and shield figures. It appears in a thin band of dark stained soil at about 20 centimeters below the surface.

The deposits in the site are extremely sandy. Several auger probes were dug to depths of nearly two meters but when the bit was removed the hole slumped, leaving less than a meter of profile. This loose sand will be a problem for any larger scale excavation. It may be wise to work at the site when the sand is damp to help it hold its shape. March or April might be a good time to undertake the work.

#### Weatherman Overlook (24CB631)

The site is one of the four situated on or near the sandstone ridge to the north of the Provinse Pictographs about two kilometers (Fig. 22). It is located on the "outside" of the oval shaped ridge along its eastern face. Juniper bushes growing at the base of the cliff nearly cover the drawings. The site was discovered and reported by Thomas Lewis and Gary Leppart in 1983.

The artwork consists of six human figures which have been totally pecked. The figures are all what appears to be frontal views in portrait fashion. There is no action, only static human figures in association with each other.

This style of petroglyphs, both the technique of manufacture and the prominent humans in association with other humans is best known from Petroglyph Canyon (24CB601). It is believed to be one of the oldest styles in Carbon County and it may date sometime between AD 850 and AD 1150 based on radiocarbon dates from Petroglyph Canyon.

Significant effort was made at finding cultural materials in the area at the base of the Weatherman Overlook site. It was hoped that datable charcoal could be recovered to confirm or deny the estimated age of the style. Approximately 25 soil probes were taken from the area beneath the panel. Some of these were forced to a depth of 70 centimeters. In fact we broke the auger forcing it through sandstone rocks. Unfortunately no charcoal nor other cultural debris was recovered. It is not likely any other testing technique would produce more positive results.

#### Three Kills (24CB633)

The site is located south of Weatherman Draw several kilometers. It is found on an erosional remnant of sandstone near the head of a side drainage to Cottonwood Creek. There is a small sage and juniper covered basin to the west of the site.

The rock drawings at the Three Kills site are all in the fine incised line style. They include two V-necked human figures, two designs which resemble the feathers on arrows, and three boat shaped animal figures that are filled with parallel lines. These lines are suggested by Thomas Lewis, the discoverer of the site, to represent spears or arrows in a symbolic killing of animals. The drawings are very faint. They do show better with differing light conditions; side light is far better than direct light.

Soil probes were taken around the base of the panels at the site, but the sandy soil is so loose it would not stay in the probe. It is believed, however, that cultural deposits would be found through stan-

dard excavation units. These deposits may aid in dating the rock art and although the art itself is not very significant, it is all in the same style. Dated cultural deposits could help establish better control of the age of the fine incised line style.

It might be possible to photograph the art at the Three Kills site with correct lighting. Our attempt during 1985 was not very successful.

#### Tyrrell (24CB728)

The Tyrrell Site was originally discovered and assigned a site number in 1968. It was shown to the archaeological field crew searching for sites in the Pryor Mountains by Mr. Joe Tyrrell. Mr. Tyrrell was guided to the site by Dennis Rule of the nearby Corwin Rule ranch. Tyrrell and others from the Lovell, Wyoming Rock Club surface collected artifacts from the site and may have done some digging in the shelter caves at the site.

The site is located near the mouth of a canyon which originates on Big Pryor Mountain and trends from north to south. The canyon contains flowing water from some springs along its course but most of this water seeps into the rocky soil at the mouth of the canyon. Some willows, large juniper and big sagebrush are supported by the water. There is a moderate scattering (1 item per 2 square meters) of chipped stone debitage on the surface of the site. The remains of several hearths were also exposed on the surface and in the erosional cuts. A five foot test excavational square was excavated into the site in 1968. This excavation was discontinued at a depth of two feet; one thin level of occupation had been between the surface and a few inches below the surface.

Rock art at the Tyrrell Site is located in two areas. The primary area is along the backwall of a small overhang in the western side of the limestone canyon (Fig. 25). The overhang is about twelve meters long; several large limestone boulders are situated at the mouth of the overhang where they serve as a protective barrier for the shelter cave. The center of the cave is protected by a roof which overhangs four meters; it is between two and three meters above the shelter floor.



Fig. 24 The most prominent of the remaining figures at the Tyrrell site--24CB728. The "ghost like" figures are believed to represent combinations of humans and animals.

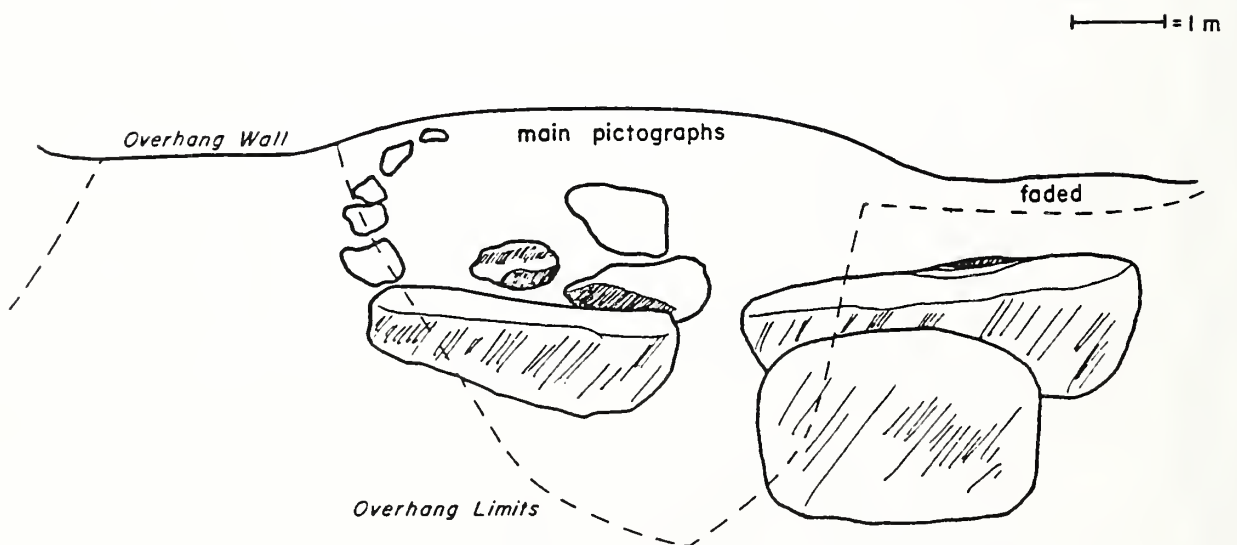


Fig. 25 Floor plan of the small overhang at the Tyrrell site--24CB728. The main are enclosed in the rock walled area. Paintings formerly covered the entire length of the canyon wall.

A series of anthropomorphic or therianthrope figures were painted in red along the backwall of the shelter. Some figures may have also been painted on the ceiling but they are badly eroded as are most of the figures along the backwall. Only two figures are still easy to recognize (Fig. 24). They appear to have been painted with a finger, although there are no longer remnants of fingerprints on these drawings. The figures are frontal views with their upper torsos and heads receiving the most attention. Arms are visible on one figure, but they are stubby with a few fingers attached to the end. There are no arms on the second figure. Legs and feet are absent but the lower parts of the figures are badly eroded. Regardless of whether there is erosion or not. The figures appear to have been treated with considerably more care in the head and upper torso areas.

One figure has eyes and a mouth created by leaving an open space for the original surface to show through. Both figures have whiskered fringe from their lower faces and horns or something else projecting from both sides of their upper heads. Both figures have flat and curved designs over their heads. These designs are fairly elaborate; one has a cross in a circle on one end and small projecting lines from its top. These flat, bent designs over the heads of the figures may represent headdresses or some other head decoration. Another explanation is that they represent atlatls or perhaps throwing sticks which were decorated so that individuals could be recognized by the associated atlatl. Although highly speculative, this idea should be kept in mind at other sites with similar art work.

At one time there were probably eight or ten of these figures along the backwall of the shelter. All appear to have been facing the viewer. The ghost-like look of the figures must have been impressive when the panel was not eroded.

The second area of rock art at the Tyrrell Site is near the top of a ridge in the middle of the canyon. These glyphs are painted in red and black. They are found along the western face of the ridge near its top. The glyphs are so eroded, they are not recognizable.

It may be possible to use water to make the art more visible at the Tyrrell Site. This possibility is best in the main cave area but should also be attempted with all the paintings. Variations in film and light-

ing conditions would undoubtedly help in obtaining photographs of the art.

There may be buried deposits in the shelter cave which contain charcoal for radiocarbon dating. These deposits appear to have been dug through by pothunters but several areas along the floor may contain intact deposits. Probes into the floor deposits were made in 1985, but the soil is too rocky and loose to hold in the probe tube. Therefore it is not known whether cultural debris would be found in excavation.

#### Fickle Overhang (24CB753)

The site was originally recorded in 1968. It an overhang with very faint petroglyphs scratched into a sloping sandstone slab on the floor. The site was inadequately recorded in 1968; photographs of the glyphs did not show them because of their faintness. Tracings were not made nor was anything learned about the potential for cultural deposits in the cave.

We could not relocate this site in 1985. It probably still exists, but Section 3, Township 9 South, and Range 26 East is extremely rough. It includes the steep sides of Bear Canyon and other broken terrain. The site is believed to be in a side canyon to Bear Canyon but may also be in a side canyon to the area around Spirit Spire, 24CB750. This section should receive intensive archaeological survey to rerecord and properly plot all the sites. The USGS map for Bear Canyon was not available in 1968, meaning the site locations were made with a one half inch to the mile scale. Many are probably not accurate.

#### Bearmouth (24CB781)

The site is located in a small sandstone overhang at the mouth of Bear Canyon along the side of Big Pryor Mountain. It is at the base of the broken terrain which is dominated by juniper where it overlooks the flat drylands to the south and west.

Two areas of rock art are found at the site. Both include incised figures. The most prominent is in Panel one; it is a human figure incised in outline form. Its head which has eyes with tear streaks is

attached to its body by a linear line neck. The body has V-shaped shoulders, arms bent upwards at the elbows, and a horizontal line across its base. Legs are straight continuations of the body sides. The figure has a series of short vertical lines radiating from the top of its head. These may represent hair or a roach type of headdress. Some other minor drawings in Panel one include a small box divided into cubes by crossing lines and some narrow incised lines or grooves.

Panel two is a faint vertical line with a possible connected horizontal line. It is too faint to reconstruct its original form.

The petroglyphs at the Bearmouth site were discovered in 1968 (Loendorf 1969:142-143). They have not been defaced nor have they eroded since discovery. There is no opportunity for excavatable deposits at the immediate base of either panel. Excavation on the canyon floor would undoubtedly reveal cultural material, but it would not be possible to associate the material with the rock art.

#### Water Canyon (24B878)

The Water Canyon site is located in the mouth of Water Canyon along the western side of Big Pryor Mountain. The canyon receives its name from springs which produce water throughout the year. Cottonwoods and juniper are the dominant vegetation on the canyon floor with pine trees on the surrounding rims.

The archaeological remains in Water Canyon were found and assigned a site number in 1971. The principle remains include tipi rings and scattered chipped stone debitage on the surface of the canyon floor and along the ridge tops on both sides of the canyon.

The rock art at Water Canyon was relocated in 1985. It is in a small overhang with a southeastern exposure. This overhang is one of several small sheltered places on the south side of the high ridge at the southern side of the mouth of the canyon. The ridge is distinguished from others by a hole through its upper part.

There is considerable occupational debris in the shelter caves and on the flat terrace areas in front of the caves. This debris includes collapsed wood in the caves, stacked rock walls, chipped stone debitage, hearth remains and rock art. The rock art is the least significant of

the remains. It consists of a series of vertical tool grooves which are incised to a depth of two centimeters. These small grooves are from three to six centimeters long and less than a full centimeter in width. Their function is unknown, but they are clearly not natural. In addition to these grooves there is one incised line figure. It may have once been an animal, but it is not recognizable as to any form in its present condition. The rock art at Water Canyon is not worth additional research. There is excellent potential for the recovery of datable cultural materials, but the art is so meaningless, one would not be dating any known style.

#### North Duke (24CB1024)

The site consists of a large (3.25 meters long) petroglyph panel dominated by seven Fremont-like anthropomorphs lined up almost shoulder-to-shoulder. Detail is concentrated on the upper part of the figures and only one has a leg with digits. The triangular shaped body with relatively small arms and hands, characteristic of Fremont figures, is evident here. Only two figures are wearing headgear; one of these has two horns that have been rubbed solid, the other appears as an incised antenna off to the right (Fig. 26). This latter figure is adorned with multi-concentric circles on its chest and is holding what may be a spear or arrow in the left hand.

Heavy superimposition is present on the panel, however, only part of it may be modern. This is the primary impediment to viewing the panel; erosion does not appear to be great. Part of what looks like a fringed medicine bag appears to have fallen off with a large chunk of the cliff. Both the bag and a long spear or arrow have been chalked in recently.

Other glyphs on the panel include a probable bull and a Euro-American figure both in side view perspectives. The bull has circular depressions which are interpreted as color patches, a good indicator of domesticated livestock. The Euro-American figure is a male with spurred boots and sidestriped pants. This glyph was initially thought to be modern, because of the facial detail and style and the subject matter itself; the glyph is, however, very similar to portrayals of Euro-Americans in ledger art.





Fig. 26 A strange incised figure at the North Duke site--24CB1024.

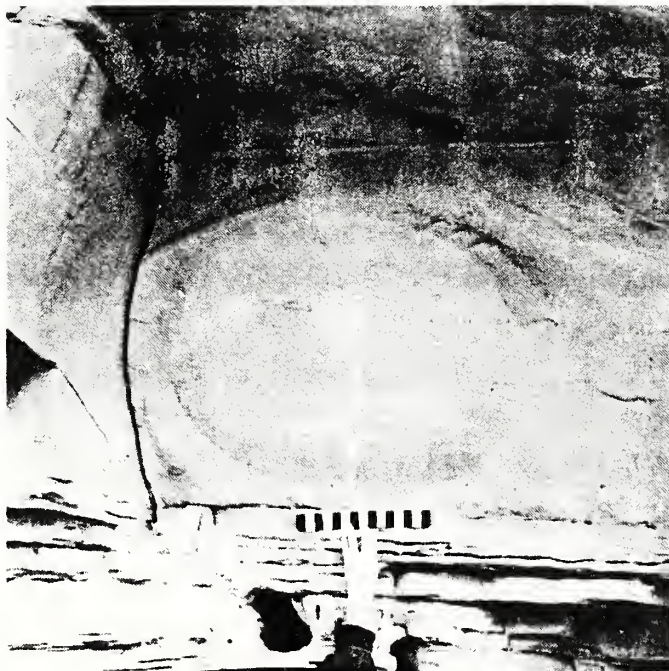


Fig. 27 The Prepared Shield--24CB1026. Surfaces for shields are rarely prepared as well as this one. Scale is 30 cm.

This site was found during the University of North Dakota's survey of the Duke Ridge for the Carbon County Historic Preservation Office. It is the northernmost site found on the ridge to date. It is located on an east facing sandstone outcrop on top of the ridge. Gently rolling landscape surrounds the outcrop which is within the juniper breaks ecozone. The site was given the temporary field number 85CB1-Panel a.

No cultural material was found on the ground surface in front of the panel and all ten soil probes were sterile. Sediments are shallow around the panel due to an extended rock shelf. The panel was traced onto plastic, sketched to scale, and photographed.

#### Big Glyph (24CB1015)

This site was located during an initial survey of the Paul Duke Ridge by the University of North Dakota. It was given a temporary field number 85CB1-Panel b. It consists of one glyph of a very large (1.5' wide X 4' high) anthropomorph incised on the cliff face. The style is reminiscent of southwestern Fremont figures noted for their large size, somewhat triangular body, and relatively small arms. Unlike those figures, the feet on this glyph point in the same direction; most Fremont figures point in opposite direction. There are no digits represented on the arms or feet and the head is missing completely. Recent graffiti surrounds but does not superimpose on the glyph.

The panel is on the east face of the ridge on the second level of the cliff wall. It can be viewed from a small grassy terrace in front of the wall, however, close inspection is not possible without a ladder since it is approximately 2 meters above the ground. Closer examination of the panel is recommended since the glyph's authenticity is not completely verified. In addition, probes should be placed in front of the panel although a ground surface check produced no cultural material and the soil is presumably shallow in this area. Photographs were taken and a rough sketch of the glyph was made.

### Cornered Horse (24CB1021)

The Cornered Horse Site consists of four finely incised horses on two panels forming a sharp corner in the eastern cliff face of the Duke Ridge. Only one of the horses has a rider and at least one horse appears with a bridle. The rider may be leading another horse behind him. Detail is difficult to see, particularly on the south facing panel which contains the majority of the site's glyphs, unless viewed during late afternoon. Only one horse was viewed on the east facing panel. A possible painted panel is adjacent to the southern panel. These consist of black circles, one solid and one containing a solid circle in the center. The latter also has a curved line coming down off it.

Although there is no recent graffiti or superimpositions on the panels, they are difficult to see due to natural erosion. Sketches were made of the horses, however, the reins could not be seen at that time and are not present on the sketch. Photographs were taken as well. No cultural material was found on the ground surface or in the soil probes.

This site was found in the course of surveying the ridge at which it was temporarily designated 85CB1-Panel c. The panel is located near the top of the ridge close to its southern end. It lies within the juniper breaks ecozone.

### Roadside (24CB1025)

This site is located on a large sandstone boulder at the eastern base of the Paul Duke Ridge. The panel faces southeast overlooking the Clark's Fork River 1 kilometer to the east. It was found during the University of North Dakota's initial survey of the ridge and was assigned the temporary field number 85CB1-Panel d. The primary vegetation is characteristic of the grasslands ecozone.

No cultural material or charcoal was found in the soil probes nor were any artifacts located on the ground surface. The panel consists of part of two large horse figures finely incised into the boulder. Detail is minimal, and it appears that a large phallus was added, perhaps recently to one of the horses. Other modern graffiti is present on this and neighboring panels. The glyphs were traced onto plastic film and the panel was photographed.

### Prepared Shield (24CB1026)

Located on a prominent southern rock outcrop at the top of the Paul Duke Ridge, this petroglyph (temporary #85CB1-Panel f) displays a common Utah area trait that involves preparing the rock surface before drawing on it. The glyph is of a large (80 cm X 80 cm) shield on a circular smoothed-out surface (Fig. 27). Vandalism to the glyph has been severe as evidenced by several bullet holes pocking the center of the shield. The only original carving present is the finely incised fringe which encircles the shield. Desert varnish covers the shield area. No shelters or tracings could be made of the glyph since it is approximately 22 meters off the ground, however, the glyph was photographed.

Cultural material in the site area is non-existent and all soil probes placed in front of the panel were sterile. This is not particularly surprising since the immediate environs are almost exclusively broken sandstone bedrock. Two or three sandstone pinnacles surround a very small north-south trending slope. The panel is located on the west face of one of these pinnacles. The southernmost pinnacle 10 meters to the south also appears to have some scratchings on it; these could not be closely checked because of the very precarious nature of the pinnacle.

### Paul Duke (24CB1022)

The Duke site was discovered by Paul Duke, a neighboring landowner, while resting against a boulder one morning. Mr. Duke notified the Carbon County Historic Preservation Office about the site and mentioned that the southern end of the ridge where the site is located contained more rock art. Mr. Duke was contacted by the current investigators whom he took to the site. The ridge, hereafter in this report designated as the Duke Ridge, was surveyed for sites and a total of eight rock art sites were recorded on this ridge, all of which are within a .5 square mile area. The sites were given temporary field numbers; the Duke site is 85CB1 Panel g.

The ridge is part of the Bureau of Land Management-Billings District property. It is located a few kilometers southwest of Bridger

and overlooks the Clark's Fork of the Yellowstone River valley. Several terraces are present on the east face of the cliff, breaking up the sheer sandstone wall into numerous long panels. The area is characteristic of the juniper breaks ecozone. The ridgetop is strewn with large sandstone boulders and slopes gently westward into a canyon. The southern end of the ridge has been heavily visited in recent times as evidenced by the vast amount of graffiti on many panels.

The petroglyph panel at the Duke site consists of one glyph located on a large boulder that faces southeast on top of the ridge. A V-neck shield bearer approximately 35 cm wide X 50 cm long was carved on the boulder surface. The exact manufacturing technique is unknown at this time. The shield design consists of various geometric shapes and the figure is presumably holding a spear of some kind. Photographs were taken in the early morning light, which is the only time it can be viewed entirely, and a plastic tracing was made of the glyph.

Four chalcedony flakes were found on the site surface. One of the nine soil probes placed every meter along the panel was positive. This probe was located directly in front of the panel and contained a charcoal line in the profile. It is likely that further excavation at this site would produce subsurface cultural material.

#### Orange Shield Bearer (24CB1017)

The Orange Shield Bearer site (24CB1017) is located on the southern aspect of a long sandstone outcrop on top of the Paul Duke Ridge. The outcrop runs from east to west, sloping gently westward. A fine sand silt layer is present all around the outcrop. Ponderosa pine and juniper surround the site area. The pictographs are low on the outcrop wall.

Two shield bearers, an upside down zoomorph, and two spirals were found during an initial survey of the ridge by the University of North Dakota field crew. All the figures were painted in orange, presumably in a dry pigment, since coverage is not even, although this could not be verified; all are badly eroded. One of the shield bearers is almost complete. He appears to be holding a club or staff and is wearing adorned headdress with a long flowing trail. His legs and feet pointing

in the same direction are painted solid. The design on his shield is too eroded to discern. The upside down zoomorph is painted solid and is outlined with an incised line. The species could not be identified. The other shield bearer also has solid colored legs and both feet pointing the same way. He also appears to be holding a staff but has no headgear on. The site was designated temporary #85CB1-Panel h, photographed and sketched. A follow up visit brought another panel of orange pictographs into view just east of the other panel. These include another zoomorph and a possible shield. No sketches were made of these glyphs.

The area surrounding the site was searched for cultural remains which might be associated with the rock art. While no artifacts were recovered, basalt cobbles and fire cracked rock were noted in the area. The former are found locally along the Clark's Fork of the Yellowstone but are not indigenous to the ridge. All of the nine soil probes were shallow (30 cm to bedrock) making it doubtful that any excavatable remains are present.

#### Eroded Glyph (24CB1019)

A vandalized petroglyph panel was found approximately 60 meters north of the Cornered Horse Site on the same cliff face level. The site was found during the project survey of the Duke Ridge and given a temporary field number 85CB1-Panel i. Two panels approximately 7 meters apart are situated in jagged open crevices of the cliff face. One panel faces east; the other northeast. The vegetation is characteristic of the juniper breaks ecozone.

Both panels consist of finely incised curved lines. These may represent the torsos of zoomorphs. Four short parallel grooves bisect what would be the back of one of these figures. Also present at the southernmost panel is a triangular bodied anthropomorph laying almost on its side. It lacks facial features, definite arms and legs. It does, however, have a very long neck. A fair amount of desert varnish has built up in some of the zoomorph incised lines.

These petroglyphs are difficult to see due to natural erosion and heavy superimposition of recent graffiti. A plastic tracing was done of

the four discernible glyphs and photographs were taken. All the soil probes were sterile and a ground survey of the immediate area failed to produce any cultural material.

#### Red Buffalo (24CB1023)

This site was located by Bridger residents Le and Ian Morris, who took the University of North Dakota crew to the site (Fig. 28). The Red Buffalo Site was given the temporary field number 85CB2. It is located in the juniper breaks ecozone on an east-west trending cliff overlooking Cottonwood Creek. The pictographs are on vertical curving surfaces that face south. Two of the surfaces are the backwalls of two medium-sized alcoves.

Five distinct figures are present at Red Buffalo and all are outlined in red. These figures include two buffalo and three anthropomorphs. Both buffalo have horns and contain heart lines. The bigger of the two (60 cm long X 40 cm high) also has a solid colored probably shaman figure within its rear portion (Fig. 29).

Two horned anthropomorphs are located in the same alcove as the small buffalo (Fig. 30). One of these has hands and three digits, while the other has no arms. The latter does have a solid colored flat and bent object above its head similar to the ones present at the Tyrrell Site, 24CB728, indicating some sort of relationship to it. The fourth pictograph also has a bent object resting just above but not on its head; however, the object is finelined and has a loop hanging from one end of it. These objects may represent special headdresses or they may be atlatls. Facial features are absent from all of these anthropomorphs. The latter one has no legs although this may be due to erosion and exfoliation. It does have one hand with three digits.

Two other painted areas were indistinguishable and attempts to bring them out with sprayed water failed. All of the clearly visible figures were sketched to scale and photographed. One of these pictographs had recently been chalked over and two others were enhanced with an oily red substance that smears when wet. The original red paint was visible underneath these substances. No other superimpositions or modern graffiti are present.

# Red Buffalo Site 24CB1023

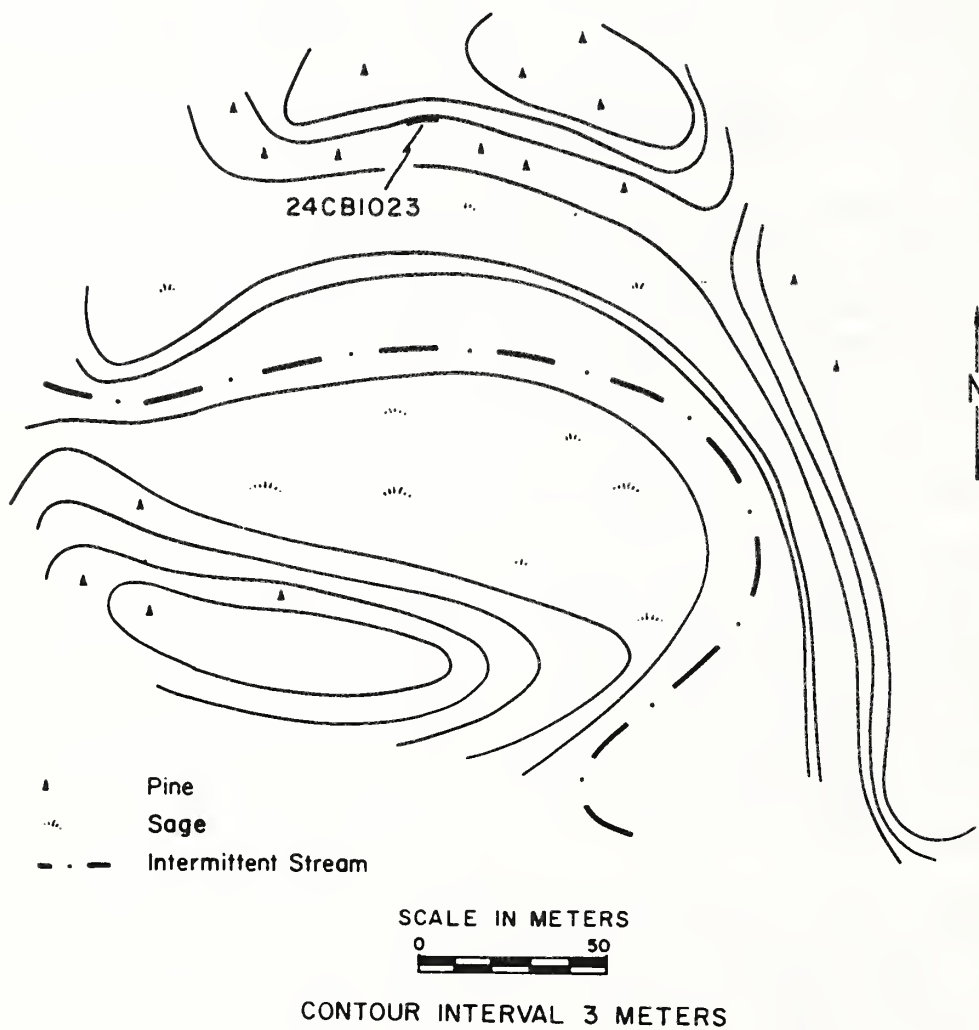


Fig. 28 Map of Red Buffalo Site - 24CB1023.





Fig. 29 A therianthrope figure at the Red Buffalo site-- 24CB1023. Note the bird talon on the foreleg of the bison and the winged human superimposed in to the scene.



Fig. 30 Two outlined figures at the Red Buffalo site-- 24CB1023. The human figure in the upper right has been chalked over by someone other than the authors.

## Rock Art Styles in Carbon County

The word style is used in many different ways by rock art researchers. It is often used to designate a particular variety of pictographs and/or petroglyphs which exhibit common designs and occur at more than one location. The similarity in designs at two or more locations is recognized by the researcher who refers to the art as a style. There are many problems with this method for establishing styles as discussed by Hedges (1982) and Schaafsma (1985). The problems are not unique to rock art research but also troublesome to those who classify chipped stone tools or ceramics. The major difference between ceramic or chipped stone typology and rock art classification is that it is easier to establish a time period for a ceramic or chipped stone type, than it is for a rock art type. Ceramics and arrowheads can be recovered from datable contexts and fitted into a time period which is comparable to other dated ceramics or arrowheads at the same time or another time in prehistory. It is not necessary, however, to know when a particular series of arrowheads or pots were made to create a type. Many chipped stone and ceramic types are created simply by using the formal attributes of the artifacts. A simple fact in all systems of typology is that one cannot describe all the variability in every arrowhead or pot and hope to communicate such lengthy descriptions to another person. One has to search for similarities between the artifacts so that those which share common attributes can be described together. Types created in an initial phase are often referred to as "descriptive types." They are not intended to fit into a time period rather they are created so a researcher can begin to compare them to other descriptive types in another region or at another site. The ultimate goal is to fit descriptive types together or to increase the information about a descriptive type by learning its distribution, when it was produced and by whom.

If this approach is applied to rock art, the first step is to create descriptive types. To do this, one needs to analyze the rock art and establish a series of attributes. As used herein, an attribute is a meaningful characteristic about a rock art design. One important attribute is the technique of manufacture. It is important because the researcher can analyze it to learn about it and thereby establish an attribute which can be compared from site to site. For example one

might indicate that the rock art type being created is always painted. Painting becomes a classification guide and those designs which are not painted do not fit into the descriptive type. The attributes can be more refined, for example, one might say the painted designs in this descriptive type are always red or yellow, they are always monochrome and they are always done with the fingertip of the artist. These are all examples of attributes related to the technique(s) by which the descriptive type was done, and they are all attributes which can be established by examining the rock drawings.

Another important series of attributes are related to the position of the rock art in its setting. The rock art designs in a descriptive type may always be found in caves, always occur on walls that are exposed to the east and never occur on horizontal surfaces. Since always and never are strong words for classification, most researchers learn that usually or nearly always are better guides. This relaxation of the classifying guides creates two possible kinds of attributes. One is an absolute guide used in monothetic schemes, and the other is an attribute usually followed and used in polythetic classification schemes. Both kinds of attributes can be used in the same descriptive type. One can establish rules for classification into the descriptive types which say all the art must be painted, and usually the art is painted in red or yellow. The first attribute of all the art painted is an absolute which must be followed by the classifier, while the second attribute of usually in red or yellow, allows for a few designs in the type of a different color.

Other attributes which are used in creating descriptive types include the variability in the rock art motifs themselves. The researcher examines multiple motifs to learn their similarities and differences. The human figures may all be drawn in full view, they may all have eyes, ears and headdresses and they may usually have feet at the end of straight legs. These descriptive attributes are the ones most often used in rock art research. Other less obvious attributes are also used, such as the relationship of one figure to another. For example, an attribute for classification could be that an art type is usually human figures in proximity to other human figures; or that usually the type includes active figures that are running or jumping.

These latter attributes become subjective and difficult to measure. They are often used in the description of the type and seldom are absolute attributes which must be adhered to for classification into a type.

Other attributes are also possible for classifying rock art into descriptive types. In many ways the rock art researcher has far more formal variability to work with than those who classify arrowheads or pots. It is important to remember that any classification must include a description of the attributes used in its construction and the rules by which the classifier fits rock art design into the type. These should be written out so that other researchers can learn if a rock art design they are working with is similar or not. Descriptive types are created for comparison. The intent is to learn the distribution of the type in time and space. With rock art, it is easiest to learn the distribution of a type in space. By studying the rock art sites over a geographical area, using the attributes and their rules for descriptive types it should be possible to establish the area of a series of similar rock art motifs. It is at this point that many researchers name a style. In this fashion a style has similar descriptive types within a recognized region.

We would rather reserve the word style for a descriptive type or series of descriptive types which have been fitted into both time and space. The time that a group of rock art drawings were done may not be as difficult to establish as some believe. The obvious technique of using objects such as guns and horses in the art is certainly a good place to begin. But once a descriptive type has been created it should also be possible to recover associated cultural debris through excavation near the rock art panels. If a descriptive rock art type is consistently found with single component sites of the same age, it is probably not excessively risky to suggest the occupants of the site were also the artists. Excavation might reveal something even more important than associated occupational debris. One might discover cultural material directly associated with the rock art such as offering objects, fires for illumination of the art, fragments of brushes, paint or tools used to make the drawings or buried art which can be dated through the covering deposits.

In fact there is ample data for western North American native groups to suggest they avoided rock art sites and did not set up campsites near them. The Kawaiisu of the Sierra Nevada mountains believed in a rock baby which create pictographs and petroglyphs. These drawings were ... "out of bounds for people. The paintings may be looked at without danger, but touching them will lead to quick disaster. One who puts his fingers on them and then rubs his eyes will not sleep again but will die in three days" (Zigmound 1977:71). Other groups had similar regard for rock art and paid respect to it. Debris recovered at the base of rock art panels may be directly related to the panel and not some later occupation.

The way style is used in this discussion it will include the suggested time of the artwork as well as formal and spatial variables. In this sense it is similar to the historical types of the chipped stone or ceramic typologists.

Using this approach, two styles have been identified in Carbon County rock art. There are also two descriptive types and a series of motifs which occur with sufficient regularity to merit description. As yet these latter motifs are not sufficiently understood to create descriptive types.

#### Fine Incised Line Style

The fine incised line style has a component which is associated with the historic period. This is obvious because horses and guns are often depicted in the drawings. Neither horses nor guns were found in Carbon County prior to about AD 1725 or 1730. This date may be in error by a few years but it is sufficiently accurate for dating rock drawings. Any drawing of a horse or a gun was likely done after AD 1725.

When the fine incised line style ended is unknown. Some rock art continued well into the 19th century and there is no reason to suggest otherwise for the fine incised line style.

Plains Indian art is best known from hide paintings on tipi covers or liners, robes, shields, drums and other hide objects such as parfleches. The paintings on tipi covers, tipi liners and robes often depicted the successful raids or exploits of their owners. (See Ewers introduction to Petersen 1968 and Petersen 1971 for a more complete

	fine incised line style	en toto pecked style	therianthropie type	fine painted line type	large bears	shields	shield bearing warriors	V-necked humans	vulvaforms	tool grooves	pecked outline	deeply incised	other rock art
24CB198												X	
24CB204		X					X		X	X	X	X	X
24CB205		X				X					X		
24CB402	X	X			X		X				X	X	
24CB406							X						
24CB407				X		X							
24CB408	X					X	X						X
24CB410				X									
24CB412				X			X		X	X		X	
24CB413					X		X						
24CB417					X		X		X	X	X	X	X
24CB476													X
24CB601		X								X			
24CB618	X												
24CB620													X
24CB621								X			X		
24CB628	X												
24CB629	X												
24CB630					X		X	X					X
24CB631		X											
24CB633	X												
24CB728			X										
24CB753	X												
24CB781							X					X	X
24CB878	X												
24CB1015												X	
24CB1017	X						X						
24CB1019	X								X				
24CB1021	X												
24CB1022							X					X	
24CB1023			X										
24CB1024												X	
24CB1025	X												
24CB1026						X						X	

discussion of the evolution of hide paintings). Paintings or engravings were not confined to hides. They were also done on trees by removing the bark and exposing a surface to paint or carve. Bone and soapstone tablets or discs were also frequently decorated with carved designs.

About AD 1830 some Plains Indians started drawing on paper with crayons or colored pencils. This art improved considerably as more Plains Indians became acquainted with the techniques of drawing that were used by European artists (Ewers 1968:9). Many of these drawings were done on the paper in lined ledger books. Today this art is discussed collectively as ledger book art or ledger art. Studies of ledger art have opened some of its meaning. Petersen (1971:226-308) has developed a "pictograph dictionary" for studying ledger art which includes various symbols or combinations of symbols that can be used to understand ledger art, and Keyser (1984) suggested the use of this "pictography dictionary" for deciphering rock art. It may be possible to use these symbols in understanding the fine incised line style in Carbon County.

The earliest ledger drawings and most hide drawings are dominated by horses and action scenes. The horse is depicted with a:

... long, arching neck, small head, long body, legs spread before and behind to indicate speed; ... (Petersen 1971:21).

There are usually multiple horses in a drawing and often the scene is intended to show stealing horses from some neighboring tribe. The artist almost always shows himself atop his horse or perhaps falling from his horse as it is shot in battle. Human figures are shown in:

... profile view but shoulders broadside, nose but no mouth or eye or hands, elongated upper torso, rigid straight posture; costume details stiffly stylized in a conventional pattern rather than a realistic one... (Petersen 1971:21).

There is no background scenery such as mountains, lakes, rivers or vegetation. Distant objects are drawn behind or above those which are nearer but they are not made smaller or less distinct. The primary action in the scenes is from right to left (Petersen 1971:21).

Many of these characteristics apply to the fine incised line style as found primarily at the Joliet site (24CB402). More refined characteristics are also comparable such as a bleeding bullet wound from a horse's hip indicating the horse was shot from beneath its rider.

Additional attributes in the fine line incised style may also help in deciphering it. Brands on some of the horses may be found on area ranches (Fig. 31). Plains Indians did not brand their horses before White intervention in their lifestyle (Ewers 1980:35,329). The earliest branded Indian horses were at the turn of the century when ID for Interior Department was burned on cattle and horses (Marsh and Reynolds nd no pagination). After this brand was altered by several white ranchers in an attempt to steal cattle on the Crow Reservation, the Crow adopted a brand which resembled a crow. The Flathead Indians who raised stock with the St. Ignatius Mission may have branded both cattle and horses with a cross in the 1840's (Marsh and Reynolds nd:no pagination).

Even cowboys did not like to brand their horses as they did not want them disfigured and it was more difficult to brand a horse. A horse's hide is not as thick as that of cattle and their hair is silkier. A horse might suffer greater psychological damage or trauma from a badly executed brand. Cowboys often put the brands on the front shoulder where it would be less prominent. A horse brand might be quite different from the cattle brand on the same ranch (Marsh and Reynolds nd:152).

Branding was required by law by the first territorial legislature in Montana in 1865 and the first territorial legislature in Wyoming in 1869. The Wyoming law read:

Every person having cattle, hogs, sheep, or other livestock shall have a mark or brand, different from the mark or brand of his neighbors... (History of Grazing-Wyoming nd;np),

Brand records were originally kept by the counties in both states and consolidated into a state monitored systems shortly after 1900.

Cattle and horse stealing was big business in the 1880's in the western territories. Many of the thieves were organized gangs of rustlers who holed up in hide outs with good supplies of food and water. Cattleman's associations were formed primarily to stop this rustling.



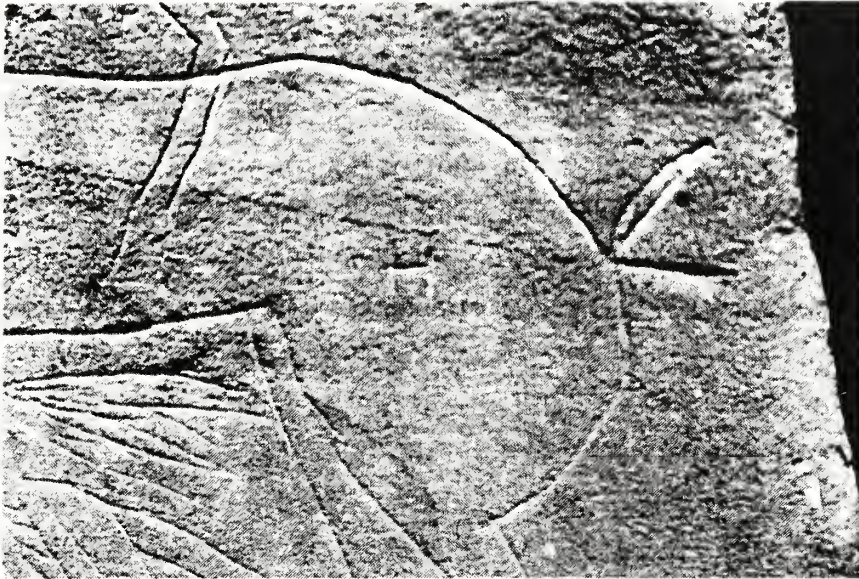


Fig. 31 Horses which show brands on their hips at the Joliet site--24CB402.

Indians were also stealing horses and cattle. They stole the cattle to eat and the horses because it was part of a Plains Indian way of life to steal horses. For example, one of the requirements for becoming a chief among the Crow was to "steal a picketed horse from an enemy camp." Another requirement was to "lead a successful raiding party" which usually meant stealing horses. Most of this theft was between various Indian tribes but some was from white ranchers.

William T. Turner who lived on the Marias River in Montana in the early 1880's told of Indian raids and pointed out the fear of a settler being left a foot far out on the prairie. According to Turner it was an unbroken rule for him and those men who worked for him:

... to tether their fastest horse by one front foot with a chain. An Indian could cut a rope, but did not carry the tools to cope with a chain (Marsh and Reynolds nd:no pagination).

The branded horses in the fine line incised style probably represent the successful raid of some Plains Indians warrior on a white rancher's stock. This suggests that these drawings were completed after

AD 1865. It indicates that the fine line incised style of rock art was still in use when ledger art was being accomplished. The distribution of the fine incised line style is over much of eastern Montana (Conner 1980, 1984, Conner and Conner 1971), in north central Wyoming (Wellmann 1979), and western South Dakota (Keyser 1984). It may also be found in other Plains states where ledger art and hide paintings were completed.

The fine incised line style is usually found on sandstone cliff faces. It is often in prominent places where it appears intended for all who pass by to see. It is clearly intended to be biographic and to communicate a story or message to those who see it. In this manner it differs from some other rock art which was completed for ceremonial purposes or to communicate with the supernatural.

### En Toto Pecked Style

A second recognized style of rock art in Carbon County is the en toto pecked style which is best represented at Petroglyph Canyon (24CB601). All the art in the style is petroglyphs which are made by totally pecking out the design. The tool used for cruder pecking may have been a hand held hammerstone while the more refined work was executed with a punch made of rock or perhaps hematite (Loendorf 1984:99-106). The style is dominated by human forms in association with other human forms. The human figures were initially made on a pattern that was scratched into the surface; remnants of the scratched pattern still remain on some of the figures. Early in the style, the human figures are made with more anatomical correctness than later figures. Early figures have eyes, hands with fingers, feet sometimes with toes, and sexual organs. Early human figures are also more likely shown in proximity to animals than later in the en toto pecked style.

Often the human figures in the en toto pecked style stand side by side on the cliff wall in portrait fashion. Both males and females and adults and children seem to be shown. Seldom are the figures shown in active scenes although one profile view of a figure at Petroglyph Canyon is shooting a bow at a quadruped, presumed to be a deer. Other human figures also hold tools or bows but their numbers are few in comparison to those who hold nothing.

Animals are made with varying degrees of precision. Those which are oldest are also believed to be made better than the more recent ones. Large horned sheep, small bears, coyotes or wolves, and deer are the most likely quadrupeds depicted. Birds or avian like forms are shown and one is in association with a human figure. Snakes are recognizable as are some insects, one of which appears to represent a scorpion.

Non animal designs include a few meandering lines or cross hatch patterns. These kinds of figures are clearly in the minority when compared to humans and animals. Pecked dots in series sometimes trail away from animals or are placed around the perimeters of unidentified objects.

The en toto pecked style has a distribution to the south and west of Carbon County. It is not found north of Carbon County in Montana. Occupational debris excavated in Petroglyph Canyon produced corrected C<sup>14</sup> dates of AD 750 to AD 1150. The en toto pecked style is believed to have been made during this time period.

#### Therianthrope Type

One of the newly defined descriptive types is a painted variety of art with primarily outlined figures. The art includes both human and animal representations. The figures appear to have been made by finger painting in red or yellow colors. Human figures are shown in full view while animals are depicted in profile with usually only two legs of the animals drawn. Both human and animal figures have interior designs such as heart lines or other anatomical features. Some of the human figures have eyes and a mouth. They usually have some sort of horned headdress. A distinguishing characteristic is a flat, curved object positioned horizontally over the head of the human figures. These objects are sometimes connected to the head like flat feathers and other times they appear to be separated from the head. On one figure there are two appendages on the head which stand upright like rabbit ears. Some of the human figures have arms with hands and fingers and some have legs with feet. The legs are made as a continuation of the outer body lines. Parallel lines run vertically down the body on some figures suggesting some type of clothing. Other human figures are simply outlined without

any internal paint and still others may have been almost entirely painted in their interiors.

The art is found in caves or overhangs in both sandstone and limestone settings. The figures occur on the ceilings of the caves as well as the walls. Access to the caves varies from site to site but all could have served as living areas.

The art, however, is not suggestive of decorated walls in a living place. Rather it has a definite ghost like look with open staring eyes. The anatomical features shown in the animals suggest x-ray vision by the human figures or the artist. Several figures have therianthrope characteristics. One horned human figure has inverted U shaped feet and it is leaving bison tracks. Another bison like figure has large talons on its front leg and a winged human figure superimposed on it. This combination of animals with humans often takes place in various sites of a shaman. It seems more than likely that this type of rock art was associated with some ritual and not intended as a biographic account of some event.

The distinguishing attributes used in identifying the type are:

1. The rock art is always found in caves or overhangs in either sandstone or limestone settings. It is not known whether this is because there is less erosion in caves than on exposed cliff walls, but it is a distinguishing characteristic for all the sites now known with this type of rock art.

2. The rock art is found on cave walls facing all directions. It occurs on the ceilings as well as the walls in all the caves known to contain the type.

3. It is always painted in lines which were most likely applied by a human finger. Fingerprints at stopping points in the painted lines have been recorded.

4. It is always painted in red or yellow pigments or some shade of these two colors. Whether drawings in other colors once existed is not known. All the known drawings are in one color.

5. Considerable attention is given by the artist to the heads of the human figures shown in type. They often have large eyes which appear to stare at the viewer. They are always better executed than bodies, arms or legs.

6. All the human figures have some kind of head gear. It is often horns although it can be radiating lines or "rabbit" ear" like appendages.

7. Many of the figures have horizontal objects drawn above their heads. Some of the objects attach to the heads and others do not. Some are simple curved lines and others are elaborate flat, oblong objects with fringe and internal designs such as crosses.

8. Animal figures are drawn in profile with only two legs shown. Bison are a popular animal figure although other forms suggest different species.

9. Both humans and animals may have internal organs or bones shown.

10. Some figures appear to be therianthropic combinations of human and animals.

This new type has been labeled the "therianthropic type" for descriptive purposes. This name is not meant to encompass a style and may change with additional study. The "therianthropic type" is found in three known sites at present. Two of these are in Carbon County--the newly discovered Red Buffalo site (24CB1023) and the Tyrrell site (24CB728). The third site, Frozen Leg Cave (24BH425), is in Big Horn County in a limestone cave which overlooks the Big Horn Canyon. The wider distribution of the type has not been studied.

#### Fine Painted Line Type

A second descriptive type has been created for a group of pictographs that are painted in black. The type is not as well defined as the "therianthropic type" but presently believed to represent a recognizable variety of art. The type has been named the "fine painted line" type for descriptive purposes. This name may change with future studies and should be labelled as a descriptive type by any who use it.

The fine painted line type is usually in black. The paint often appears to simply be charcoal without any binder. In some instances on damp sandstone walls a charcoal stick may have actually penetrated the surface sufficiently to preserve the drawing. Although this may be possible with some of the drawings in this style, such a technique for manufacture has not been established. It seems more likely the charcoal

was mixed with a binder to make the paint. Some faint red drawings are found in proximity to fine painted designs at one site (24CB410) and they may be from the same time period. All other known drawings in the type are black.

However the paint is made, it was applied with a sharp or narrow instrument. It may have been brushed on but it seems more likely it was applied with a sharpened tip of a stick or stylus. A similar tool was made by Buffalo Bird Woman, an old Hidatsa woman who showed Gilbert Wilson how to paint fine lines (Weitzner 1979:255).

The fine painted line type has many forms which are circular, ovoid or oblong. These may be the bodies of animals or the shields of human figures. These circular and ovoid drawings are often crossed with internal straight lines sometimes parallel to each other. Straight lines are also often attached to the exterior of the circular or ovoid drawings like legs or fringe. Shield like figures have many interior designs and appear busy from the interconnected circles and lines. drawings are simple stick like figures of animals and humans. One fairly elaborate bird was drawn in the fine painted like type at 24CB408.

At present all the sites which exhibit the type are small caves or niches in sandstone cliff walls. The small egg shaped cave at 24CB408 is a good example of the setting for the rock art type. It is found on the ceilings and the walls of these small shelter locations. One shield bearing warrior in this type is found at the Tillet site. Almost as though it could be predicted, the drawing is under a small ledge in a niche in the rock. Perhaps drawings of this type have eroded off more exposed locations. The defining attributes for the type include:

1. The drawings are very fine painted lines which had to have been applied with a sharp tool or stylus.
2. Forms include many circles or ovoid shapes with internal straight lines and/or external straight lines attached to them.
3. The drawings are usually simple stick like figures except for the interiors of shields which have many interconnected lines and circles.
4. The artwork is frequently done in black.
5. The type is most often found in small recesses into sandstone cliff walls.

The age of the fine painted line type is unknown. However it is often found on soft and crumbling sandstone. If it were very old it would likely be eroded away. At present there are no known horses or guns in the art. This may mean the type predates these objects or they simply may not have been drawn by the artists who painted these glyphs. The latter situation might occur if the art were used in some ritual or associated with a healing ceremony. Images used in ritual or ceremony do not change very easily. Horses and guns may have been used and shown in some other form of art but not depicted in a ceremonial art. Whatever the explanation, the fragile nature of the sites which contain the fine painted line type suggests it is not very old.

Four sites in Carbon County contain drawings of this type and several sites in surrounding counties. Sites known to contain the examples of type are 24CB204, 24CB408, 24CB410 and 24CB413. Since leaving the field another site has been reported by Thomas Lewis in Carbon County named the Sansifer site. This site may have number 24CB654, but the number has not been confirmed. The senior author received a partially completed site form for the site on which Lewis notes the possibility of a fine painted line style in small egg shaped caves. He includes this new site, the Sansifer site, although the artwork at the site is eroded nearly beyond recognition.

#### Large Bear Motif

Another distinct series of rock art motifs in Carbon County contains large bears, shields and shield bearing warriors. It is suspected that these motifs post date the en toto pecked style and it may be possible to subdivide the motifs into separate types. At present it is more advisable to simply recognize the motifs and wait until further work will allow the creation of more discrete types.

The large bears found in Carbon County rock art are intriguing because they are not reported elsewhere in Montana. Bears have been venerated in many cultures, at various times, in many parts of the world. Their first subjection to human ceremonialism appears to have been more than 50,000 years ago when Neanderthal Man arranged cave bear skulls around stone altars in Switzerland and France.

Hallowell (1926) described bear ceremonialism as a circumpolar phenomena in the northern hemisphere. He noted that many northern latitude cultures practiced similar customs with bears such as calling them from their den, offering conciliatory speeches to them, apologizing for killing them and/or blaming the death of a slain bear on some other group of people or agent. According to Hallowell (1926:148-149): The characteristics of bears; "... lend themselves more readily to anthropomorphization than those of other animals." Bears possess sagacious qualities which are often remarked upon by those who study them closely. They are omnivorous and in direct competition with humans for food at various seasons of the year. They sometimes stand on their hind feet or sit against a tree with their forepaws used like arms. Their tracks are human like as is their excrement. Their facial expressions resemble those of humans and when attacked or injured they often whine or cry with tears in their eyes. As Hallowell (Ibid:149) states, "Add to these characteristics the peculiar habit of hibernation which must be specially curious and mystifying to the unsophisticated mind--and one can in this case read undoubted plausibility into the psychological hypothesis." The psychological hypothesis was originally offered to explain the widespread veneration of bears by the recognition of their human qualities in multiple cultures. Although Hallowell believes the human like characteristics of bears may have played some role in their veneration by humans, he rejects it as an explanation for circumpolar bear ceremonialism. In his rejection he notes, among other things, that bears are found in other more southern areas where they are not given any special attention by humans. Therefore the human like qualities of bears do not necessarily trigger some psychological mechanism in humans which ends in predictable ceremonialism.

Nevertheless several of the cultures which occupied the area surrounding Carbon County for at least the past several hundred years paid special tribute to bears. In particular grizzly bears were recognized for their cunning and their ferocity. One interesting account of an encounter with a grizzly bear was reported by Osborn Russell in 1834 near Fort Hall, Idaho. This was Russell's first encounter with a grizzly which his companion shot but only wounded. Russell in his determination to kill the beast was nearly killed himself as the bear



charged (Haines 1967:6-7). Russell vowed to treat grizzly bears with more respect but his encounters with the bears continued. In April of 1838, he was travelling along Rock Creek somewhere in the vicinity of Joliet when his companion was pounced upon by a grizzly. The bear simply pushed the fellow aside by putting one forepaw on his head, another on his left shoulder, and then ran away leaving the man somewhat shaken but not injured (Ibid:83-84).

Russell had other encounters with bears and in his descriptions of the animals that inhabited the Rocky Mountains, he described both grizzly bears and black bears. It is clear that he considered grizzlies to be a special kind of animal and completely different from black bears. He indicates that black bears were docile animals, seldom encountered on the plains away from their preferred habitat in the tree covered mountains. Grizzlies, on the other hand, were unpredictable and if surprised by humans or wounded they were extremely difficult animals. They were frequently encountered along the lower stream courses in what is today Carbon County.

Indian tribes on the northwestern plains also had considerable respect for grizzly bears. The Blackfoot usually did not hunt them unless it was some adventurous young man who was seeking the claws for a necklace (Ewers 1958:85). Wissler (1212:131) describes an important bundle among the Blackfoot to contain "a large dagger-like knife to the handle of which was attached the jaws of a bear." The transfer of the bear knife bundle was an elaborate ceremony which included sudatory rites and special painted symbols. The owner of the bundle acted as a bear and jumped on the proposed new owner, pushing him into thorns and throwing the knife at him (Ewers 1958:165; Wissler 1912:132-133). The original myth for the ceremony included calling a bear from its den and offering tribute to a family of bears which is reminiscent of the circumpolar bear ceremonialism described above.

The Kiowa had a Bear Society which was very old and contained only a few members when Lowie recorded it at the turn of the century. This society was limited to women who had secret rites and dances. Lowie (1916:849) noted that the members "...imitated the motions of bears with their hands. They did not allow any outsider to come in when they had a dance." In 1802, Perrin du Lac, noted that the bravest warriors among

the Kiowa "were distinguished by special ornaments--for example, only those who had killed a white bear could wear a necklace of its claws. This was a particular mark of distinction, for a bear would attack a man before it was wounded" (taken from Mayhall 1962:30). The white bear probably refers to the grizzly which gets a silver or gray color at a fairly young age.

Bear ceremonies and societies were also known on the Plateau and in the Great Basin. The Utes believed their primal ancestors were bears and held a Bear Dance with a ceremony as a tribute every year (Reed 1896:237). The dances were directed by a shaman and several helpers. They were performed in late February or March and lasted for ten days (Jorgensen 1980:270). A brush and log enclosure built for the dance had a bear image on a flag above it and an opening to the east since it was believed that bears chose their caves for hibernation with openings to the east (Reed 1896). The Utes sought power to change winter into spring by performing the Bear Dance. They also sought good health, fertility for women and hunting or gathering success. Bears were believed to enjoy good health and robustness by the Utes; it was these same characteristics that the Utes were seeking (Jorgensen 1980:271; Lowie 1924:299).

Six large bears and several smaller ones were noted in the rock art in Carbon County. The large bears are interesting because they are all more than a meter in length and they all appear to represent grizzlies. This latter assumption is based on the hump along their backs just behind their necks, a well recognized characteristic of grizzly bears. The artists paid particular attention to the front halves of the bears. This seems true even though erosion is greater on the backs of several of the bears than the fronts. The fronts might have received more attention because the head, mouth and teeth are found there or because it is possible to show the human like characteristics that bears show in their forward torsos.

The technique of manufacture varies from site to site. Two of the bears have been made by a pecked outline with some portions of the image either totally smoothed or pecked (24CB198 and 24CB417). Two were made by painting (24CB413 and 24CB630). The two at the Joliet site (24CB402) were made by a deeply incised groove to outline the figures. The

variation in the technique for making the bears is unusual because they have many other similarities.

All six have short ears; four have two eyes on one side of their heads and the remaining two, eroded at their heads, may also have had two eyes on one side. Nevertheless a majority of the artists have followed the convention of showing a large bear with two eyes where there should only be one. All have fore limbs with large feet and claws. While some have hind feet and claws there has been special attention shown by the artists to the front feet.

All six bears face to the right and all are exposed to the east while they face to the northeast. The significance of this, if there is any, is not understood. The opening in the Ute Bear Dance lodge was to the east presumably because bears selected winter dens with an eastern exposure. It is not known if some similar reason was used by the artists who put all these bears on east facing rocks.

The similarities in the bears suggest they were associated with some ceremony or drawn by a shaman for some magical purposes. A hunter showing his successful kill would more likely show the individual characteristics of the kill, such as the number of arrows or spears that were used or some other particular incident in the kill. If the bear charged the hunter from the right the artist would show the left side of the animal. A hunter depicting a kill would not necessarily select an eastern facing cliff on which to draw his scene. It does not seem probable that the six large bears with their similar settings and characteristics were intended to represent biographical accounts of individual hunters success. More likely they are a symbol which others understood simply by seeing them or they are associated with a ceremony. Their orientation to the rising sun suggests there could be some association between the sun and the bears.

#### Shields and Shield Bearing Warrior Motifs

Shields and shield bearing warriors are among the most common rock art motifs in Montana. The drawings were initially described by Mulloy (1958) in his report on Pictograph Cave, near Billings, Montana. He indicated that the shield bearing warrior motif had a distribution along the east side of the Rocky Mountains and southward (Ibid:121). He also

wrote that he had visited sites of shield bearing warriors near Joliet and Roberts.

Since their initial description many others have discussed the motif. Gebhard (1966) presented information on the design and its distribution in the Plains. Conner (1962) and Conner and Conner (1971) offer descriptions of the motif and discuss its distribution in central Montana. More recently Conner (1984) discusses shield bearing warriors and the introduction of the horse in the lower Yellowstone River area. Although this list does not include all the descriptions of the motif, it is sufficient to give the reader a thorough background into the previous research on shield bearing warriors.

Shields without an associated warrior are also found at several locations in central Montana and eastern Wyoming. Shields alone are not as common as those associated with a pedestrian warrior. The large number of shields without warriors in Carbon County is noteworthy, although it is not understood.

Shields and shield bearing warriors are also found to the west of the Rocky Mountains but not in Montana. Their distribution west of the mountains is in lower Idaho, Utah and Nevada. Shields without warriors are especially common in Nevada along the mountains near Las Vegas. The distribution of the shield bearing warrior motif in the same area as the protohistoric Shoshoni suggested to Keyser (1975) that the designs were drawn by the Shoshoni.

The typical shield bearing warrior is a pedestrian figure with a circular shield that usually covers his torso from his knees to his shoulders. Sometimes arms and hands protrude from behind the shield and they may hold spears or bows and arrows. Some figures have lances or clubs protruding from behind the shields but not any arms or hands. Legs can be decorated with fringed bands and often the knees appear to have something connected to them. The heads of the warriors show from behind the shields at the top. They often have eyes, nose and mouth with hair or headgear on top. The shields can display fringe around their perimeter and usually have interior images of animals, other human figures or various abstract designs. Stuart Conner, who has examined more shield bearing warrior designs than anyone else to my knowledge, indicates that he has never found two shield designs which were the same (1984).

The large shields shown with the shield bearing warrior motif are discussed by most authors as a prehorse type of weaponry. It is suggested that once the horse was introduced to Plains Indians they would have quickly reduced the size of their shields simply because large shields and fast horse riding are not compatible. Shields used by mounted plains warriors were about half the size of those used by earlier pedestrian warriors (Ewers 1980:203).

There are several written accounts of the use of the early large shields by Plains Indians and a few early hide paintings which show battles with large shields in use. The written account most often presented is by an old Cree Indian named Saukamappee. It was recorded by David Thompson in the winter of 1787-88. The battle which Saukamappee helped the Piegan fight with the Shoshoni was in 1723-1728 at a time before either of the groups had horses (Ewers 1980:15).

Thompson (1916:329) describes the battle as related by Saukamappee. The two sides:

... sat down on the ground, and placed their large shields before them, which covered them: We did the same, but our shields were not so many, and some of our shields had to shelter two men. Theirs were all placed touching each other; their Bows were not so long as ours, but of better wood, and the back covered with the sinews of the Bisons which made them very elastic, and their arrows went a long way and whizzed about it as balls do from guns. They were all headed with a sharp, smooth, black stone (flint) which broke when it struck anything. Our iron headed arrows did not go through their shields, but stuck in them; On both sides several were wounded, but none lay on the ground; and night put an end to the battle, without a scalp being taken on either side, and in those days such was the result, unless one party was more numerous than the other.

This battle technique was fixed between two lines that shot arrows at each other from stationary positions. Other techniques for carrying shields while fighting appear to have differed from this fixed position type of battle as described in another account of an early pedestrian battle by Peter Fidler in 1793. The fight was a sham fight witnessed by Fidler between the young men of the Muddy River Indians (Piegan) with whom he was travelling in present day Saskatchewan. As described by Fidler:

In the evening all the young men had a sham fight-with their shields on-and using only-bluff-headed arrows-they formed into equal parties and went through all the evolutions of the Indian arts of open attack, with great dexterity, the principal point is to move the shield about, which hang by a thong on the left side-so as to oppose the flight of an arrow that is aimed directly at them-a quick eye is also another indispensable thing to mark the arrows flight when coming towards them-sometimes they stand upright-and very often on their knees- when the shield covers them entirely... (Hudson's Bay Archives - Fidler's Diary of 1793).

It is clear in this description that the shields which covered a kneeling man were larger than those used by the equestrian Plains Indians. It is also interesting that Fidler describes moving the shield to deflect the arrow and the shield hung on a thong on the left side. Use of a bow and arrow requires two hands and a shield would have to be held on the arm or in a hand with the bow. In a kneeling position or sitting position it would be possible to prop a shield in front and then shoot arrows with both hands from behind it. Use of a shock weapon like a club requires only one arm and a shield could have been held quite easily with the arm opposite that used to hold the club. To use a bow and also use ones shield to deflect arrows would be a difficult task without uncovering the body while shooting arrows.

The Hidatsa Indians appear to have used two sets of warriors, one to hold the shield and a second to shoot the bow as described in Bears Arm to Bowers (1965:351). The battle took place near Sentinel Butte, North Dakota, at a time when "there were a few horses but no guns" with the Snake Indians or sometime circa AD 1740. The Hidatsa leader was Crow Bull who had been instructed in a vision to meet the enemy. As Bears Arm describes the battle:

When the enemies saw them, they climbed one of the high buttes. The men with shields were told to go ahead and all the others would follow closely behind them in a compact group. Each man, using his bow and arrows, was supported by a shield carrier who walked in front to deflect the arrows with his shield, thus protecting the man in back of him.

This method of pedestrian warfare may have been employed to solve some of the problems in using a shield and a bow and arrow in a moving or advancing group.

Perhaps the most instructive information on the use of shields by pedestrian warriors is found in an early hide painting. This painting is the Segesser I painting that was sent by Father Phillip, a Jesuit missionary, in the Spanish province of Sonora, to his family in Switzerland in 1761. Segesser I is one of two hide paintings studied in detail by Hotz (1970). After a thorough examination of costume detail, setting, and other items in the painting Hotz concludes that Segesser I portrays a battle in which Mexican Indians on horseback are attacking pedestrian warriors who are defending their tipi village. Hotz believes the village being attacked is the Plains Apache while the mounted Mexican Indians are militia trained by the Spanish to help in military undertakings. The mounted warriors ride horses clad with hide armor in Spanish fashion and carry lances, bows and arrows and swords. Each mounted warrior also has a large circular shield hung over their left sides but none are shown using their shields.

The pedestrian warriors are shown behind large shields which cover their bodies from the necks to their knees. All are drawn in profile with their shields shown "wrapped around" their bodies. Two pedestrian warriors with drawn bows at the front of the action have no shields. Hotz (1970:37) suggests this is "either because they were attacked without warning or because shields would interfere with their shooting." It seems quite possible that they are using a fighting tactic similar to the Hidatsa where a shield bearer covers for a bow and arrow user. Hotz also believes that the shields of the pedestrian warriors are shown too large and suggests "It is possible that the painter simply distorted the size of the shields, as he did the heads of the warriors, which are out of proportion to their bodies (Ibid:39)." He also indicates that the painter may have belonged to a tribe that used large shields. It seems equally plausible that the group being attacked had not yet adapted to horse riding and still used their large shields in their pedestrian lifeway. Several early Spanish accounts describe native shields, but the most revealing are in the testimony of the soldiers who accompanied Don Juan de Onate in AD 1601 on his legendary expedition to the plains of North America. Three soldiers, Baltasar Martinez, Juan de Leon, and Juan Rodriguez describe the weapons of the Escanxague Indians encountered by the Onate group in what is now western Kansas. Martinez (Hammond and Rey 1953:841) relates:

They carry bows and arrows and hardwood war clubs three spans long with a large piece of flint at the end and a strap at the handle so as not to lose the club in battle. They have large buffalo shields to cover and protect the entire body.

The description by de Leon differs slightly (Hammond and Rey 1953:854):

Their weapons are bows and arrows, shields, and war clubs. Their shields are large, covering the entire body.

The final description by Rodriguez (Hammond and Rey 1953:865) adds little:

Their weapons are bows and arrows, small war clubs, and large leather shields which protect most of the body.

The identity of the Escanxaque (Escanjaque) is debated by various scholars. Some believe they were the Kansa or Osage but Terrell (1975:103) presents data to refute this belief and offers other information to suggest they are a group of Plains Apache. Forbes (1960:101) identifies the Escanxaque as "...a north-roaming group of Tonkawan Indians...". In either case the Escanxaque were nomadic bison hunters without horses who used large shields in their warfare.

The combined description of the soldiers mention bison hide shields which nearly cover a human body, bows and arrows and hardwood war clubs with a large piece of flint on one end and a strap on the handle. While a single warrior could carry all four of these weapons (shields, bows, arrows and clubs) it seems he could only use them in combinations of two i.e. bows and arrows or shields and clubs (see Wedel 1969 for additional discussion).

Returning to the Segesser I painting, Hotz (1971:61) believes it represents a Spanish supported attack on Plains Apache sometime around AD 1700. Although this is a century later than the Oñate expedition and the descriptions of large shields, it is still possible that large shields were still in use. The major problem with this explanation is the belief that by "...the 1680's all the Plains Athabascans were probably in possession of horses... (Forbes 1960:191)." Since there are no horses in the Segesser I painting, the Indians being attacked either



had no horses or their "horses had been put out to pasture or perhaps driven off by the attackers" as suggested by Hotz (1971:37).

One thing is certain, the pedestrian shield figures on the Segesser I painting differ a great deal from other shield figures on bison hides painted by Plains Indians.

The more common way for shield figures to be shown is like those on the Mandan robe collected by Maximilian Prince of Wied in 1833. It shows several pedestrian shield figures as well as mounted warriors and various animals that include bison, bear, elk and others. The pedestrian warriors are shown in full frontal views in much the same fashion as the rock art motif on the northwestern plains (Dunn 1968:154). For the most part the figures are static. There are no trees and no background scenery.

Discussion on the use of shields may be important for establishing types of the shield bearing warrior motif. Groups of shield bearing rock art drawings may be shown in different positions before and after the bow and arrow.

It may also be possible to equate a certain variety of shield designs with a certain time period, an area or tribal group. Even though individual shield designs were all different there may have been some common attributes in shield designs among members of the same group. Hotz (1970:38) believes the designs on the pedestrian warriors shields in the Segesser I painting can be equated with Apache shield designs. The designs are mainly circles or discs with rayed sunburst patterns that are found on Apache clothing and other objects. They are described as representations of the sun.

The age of the shield bearing warrior motif and shields in Carbon County is not known. The crudely pecked shield bearing warrior in association with an en toto pecked human figure at the Joliet site (24CB402), the two pecked shields at the Crooked Creek site (24CB205), and the pecked shield figure at the Krause site (24CB417) suggest shield bearing warriors post date the en toto pecked style. This means they should post date AD 1150. It also is not known when the shield bearing warrior motif ended. The introduction of the horse to the residents of Carbon County and surrounding areas in about AD 1735 influenced the use of the large shield, but likely did not make large shields totally obsolete.

Shields may have been made for purposes other than defensive weapons. Some may have been dance shields associated with particular ceremonies. These ceremonial shields may have been patterned after a war shield but were usually constructed of lighter material (Mails 1972: 504). Ceremonial shields may have survived well into the period of horse riding. Numerous drawings and paintings by Catlin and Bodmer as well as other early western artists show large shields that nearly cover a standing or dancing person. (McCracken 1959:61,70,83,95; Thomas and Ronnefeldt 1976:212,217; Truttner 1979:91). Many of these are associated with ceremonies but others may be war shields used to defend tribes who were more sedentary in their lifestyle such as the Mandan who lived in large walled villages. Defense would have been from behind the walls of the village where large shields may have been useful.

The nomadic groups of Carbon County did not have established villages to defend. Large shields were probably more of a hinderance than a boon to those groups who were constantly on the move. More than likely large shields were not used long after the introduction of the horse in Carbon County.

#### V-necked Human Figure Motif

Another recognized rock art motif in Montana is the V-necked human figure. The motif was originally described by Mulloy (1958:122) from Pictograph Cave. Since then the description of the figure has been refined by Conner (1962:9) and Conner and Conner (1971:17). They are described as simple figures which:

... appear in front view. They appear in both painted and grooved versions. This is a parallel-sided person whose legs are continuations of the sides of his torso downward. The bottom of the torso is a horizontal line. The common denominator is that the upper part of the body, between the points of the shoulders is in the shape of a V. The head is usually an outlined circle. Often arms are extended outward and bent at the elbows. Many are phallic.

The so-called, and probably misnamed, "heart line" occasionally appears. It is a line from the throat to a circle or spearhead-like design in mid-body. The bodies are never colored solidly, rubbed or pecked out. They appear only in outline form. Facial features are rare. Feet are usually little more than short horizontal lines.

Conner presents additional information which demonstrates that shield bearing warriors and V-necked human figures are contemporary. He also believes that figures may be discontinued earlier than shield bearing warriors.

The distribution of V-necked human figures is through much of eastern Montana. The figures are found at Ellison's Rock (Conner 1984) and in the Cave Hills (Keyser 1983) as well as a dozen more sites to the east of Carbon County. The figures are found as far north as Writing-On-Stone in Alberta (Keyser 1977:25) and south into central Wyoming. The figures do not appear to be as common in the southern part of their distribution. The few examples in Carbon County reflect this pattern where they are clearly outnumbered by shield bearing warriors.

#### Vulvaform Motif

Several other motifs are found with frequency in Carbon County rock art but neither their significance nor associations are well understood. One common design appears to represent female external genitalia. Mulloy (1958:125) describes these figures as "... a motif which occurs widely in this country as an isolated figure and drawn disproportionately large on female figures. A great many of these figures occur at the Antler Ranch in Dry Head Canyon in the Big Horn Mountains." Mulloy illustrates several of these figures from Pictograph Cave which were painted in either black or red. He does not illustrate the figures from the Antler Ranch but some of these figures are still visible at that site. They are all made by deeply incised or rubbed techniques.

The Carbon County site which displays most of these female genitalia designs is the Tillet site (24CB204). No less than 100 of the designs are abraded into the soft sandstone cliff under a small overhang at the site. The motif is an ovoid shaped area that is pecked or ground into the wall. It often has an incised line down its interior length and around its perimeter. Some have incised lines radiating from the perimeter which resembles pubic hair. A few of these motifs have been painted as well as incised or grooved into the cliff walls.

The distribution of this motif is unknown although Wellman (1979) who labels the motif a vulvaform design indicates it is found in many parts of Wyoming and Montana as well as adjacent states or provinces.

Stuart Conner mentioned that these designs may be associated with elk, a symbol of love among the Crow (personal communication 1985). This observation is true for the Tillet site where there is one finely made elk on the cliff wall a few meters from the small grotto with the vulva-form designs.

The age of the vulvaform motif is not known. If it is in fact associated with Crow love medicine then the design may be contemporary with the Crow in Carbon County. This assumption is pure speculation, however, because the Crow may have found the grottoes filled with vulva-form motifs recognized the designs as female genitalia and left their own symbol for love medicine--the elk.

#### Pecked Outline Motifs

Several rock art motifs in Carbon County appear to be done by pecking to outline the figures. The pecking is often quite crude and appears to have been completed with a hammerstone or similar tool. The distribution of this technique for making petroglyphs is not yet defined. Similar glyphs are known at the Ryegate site (24GV406) near the town of the same name about 140 kilometers north of Carbon County. Similar rock art is also found near Greybull, Wyoming approximately 60 kilometers south of Carbon County. There is no rock art site in Carbon County which exhibits only this technique for making drawings but several sites have two or three petroglyphs made this way. The figures include shields, shield bearing warriors, rectangular body shaped humans and some quadrupeds although animals appear to be rare in Carbon County. There is a large bison made by this technique at Greybull and a V-necked human figure at Ryegate. It is important to try to understand the distribution of this technique in time and space because of the pecked outline shield and shield bearing warrior figures. The technique used in the pecking appears very similar to that used in making the en toto pecked style. It is believed that pecked outlines of figures may immediately post date the en toto pecked style. If this is true it would be possible to establish the beginning of the shield bearing warrior motif in Carbon County.

### Deeply Incised Motifs

Some rock art in Carbon County is made by deeply incising the figures in outline form. Sometimes the interiors of these figures are smoothed or have inside design elements done by incising. The incising is usually deeper and wider than that of the fine line figures associated with horses and guns. It is presently believed that these motifs pre date the fine incised line style, but it is not known when they started in prehistory. The designs do include animals, some of which are large, such as the bears at the Joliet site. Human figures include both shield bearing warriors and V-necked humans. The distribution of deep incised figures is unknown.

### Tool Grooves

Another common characteristic at rock art sites in Carbon County is tool grooves. Tool grooves are believed to have been functional and represent the manufacture of some kind of tools. There are two varieties of tool grooves. One has a banana shape with a rounded bottom. The others have more of a V shape and are usually smaller or shorter. Both varieties are linear and constrict to pointed ends. The most complete research on Montana tool grooves was completed by Feyhl (1980). Feyhl made several bone and antler tools by using sandstone surfaces for abrading and shaping functions and concluded:

A short elliptically shaped groove suggests to me that a bluntly pointed tool resulted. A long groove with a sharp V bottom suggests the fashioning of a narrowly pointed object. My replication of the banana grooves suggests to me that they result from the smoothing and rounding of the rough ends or edges of bone and antler. In the course of fashioning an elk horn scraper handle, I found that the broken or cut-off stub of antler tine was removed quickly and smoothly by grinding sandstone into a groove (Feyhl 1980:25).

It seems quite likely that bone or antler tools such as those made by Feyhl or other similar tools were made at the tool groove sites in Carbon County. If this is true, it suggests that people were working in proximity to rock art. One might predict an absence of tool manufacture at sites with ceremonial art unless the tools made were for some use in the ceremony. Everyday tools, like scraper handles, were probably made

as a part of routine work and such tool groove sites should be found adjacent to living sites. This is true in Carbon County where all the tool groove sites are found near occupation sites. None are found in association with those rock art sites suggested to be strictly ceremonial such as those with the "therianthropic type" of drawings.

Tool grooves are believed to be at all ages because they are found in proximity to different age sites. More work needs to be done with the distribution of tool grooves and other archaeological sites.

### Conclusions

The Northwestern Plains contain numerous archaeological sites. Many of these are simple single component scatterings of chipped stone debitage on the surface; others are deeply stratified with multiple components containing a combination of stone and bone artifacts in association with hearth remains and house remains. Some of the most complex archaeological sites on the Northwestern Plains are bison kill sites with tens of meters of intermixed bone debris and stone artifacts. Still other sites represent specialized activities such as the stone structures associated with the fasting of individuals on a vision quest. In all of these sites regardless of whether they are complex or simple, for special functions or multiple functions, there are very few artifacts or features with examples of the artistic expression of the former inhabitants. This does not mean the former occupants of the Northwestern Plains were not artists rather the mediums upon which they placed their art were perishable. Using the items decorated for artistic purposes by historic Northwestern Plains' tribes as a guide, the primary objects decorated in the past were made from animal hides. Skin tipis and tipi liners were likely decorated by painting. Parfleches, shields and drums were probably also decorated. Unfortunately these items have all perished from prehistoric sites. There are no known painted hides or hide fragments from Northwestern Plains sites.

Another significant difference between the Northwestern Plains and many other archaeological areas in North America is the absence of ceramics. Even when ceramics are found in Northwestern Plains sites they are often small, poorly fired, crumbled, fragments of pots. Elsewhere in North America, ceramics are decorated and archaeologists have

the opportunity for study into the sociological and ideological aspects of culture through ceramic variability. This possibility does not exist on the Northwestern Plains.

The absence of decorated artifacts underscores the need for increased studies with rock art on the Northwestern Plains. Since there are fairly numerous rock art sites, more research is needed to answer questions regarding the ideological aspects of former cultures.

Many American archaeologists do not consider rock art as a significant resource. Their primary objection with rock art studies is the lack of temporal control. In other words they view rock art as interesting and may think of it as aesthetically pleasing, but do not consider research at rock art sites worthy of time expenditure because one never knows when the drawing was executed. In a discipline that uses a comparative approach for describing past cultures, it is difficult to compare rock art from any two or more sites because they may be from different time periods. Archaeologists believe they are wasting effort comparing the proverbial "apples and oranges" rather than "apples and apples." For this simple reason it is essential to develop methods for dating rock art on the Northwestern Plains.

The research completed at rock art sites in Carbon County in 1985 demonstrates that two techniques for dating rock art are possible. One of the techniques employs absolute dates and the other is relative. The absolute dates can be obtained by excavation of deposits adjacent to the rock art panels. The associated cultural debris may be directly connected with the art such as a tool used in making the drawings or it may have a secondary connection such as a fire used to illuminate the drawings. Many other possibilities exist but with an almost total lack of excavation at the base of rock art panel, there is no previous research for comparison. However, to believe that there are no datable objects or deposits at the base of rock art panels is not true. At least one third of the 33 rock art sites in Carbon County have associated debris which can be dated through radiocarbon methods. Perhaps even more interesting is the fact that two of these sites test excavated through standard techniques are known to contain only charcoal. Finding charcoal and no other debris is not normal for site excavations on the Northwestern Plains. It suggests a special function for the fires at

rock art sites which was directly associated with the art and strengthens the credibility in using the charcoal for dating purposes.

The second technique presently being developed to date rock art in Carbon County is relative. It depends upon the establishment of descriptive types of art which are defined with sufficient control to depend upon them for classifying rock art. Once a group of sites on the Northwestern Plains have been subjected to the classification process it should be possible to plot the distribution of rock art through time according to cycles of popularity for a particular type. This process will parallel that used by archaeologists when establishing artifact seriation schemes. It will take advantage of any absolute dates associated with rock art types to aid in developing the proper placement in prehistory. Preliminary research at Carbon County rock art sites suggests this technique will work since the sites exhibit definable types of art and repetitive motifs. Thus, an area where Carbon County rock art has considerable significance is in the potential to establish techniques for dating rock drawings which may be useful in many other parts of the world.

Another significant characteristic about Carbon County rock art is the geographical location of the county in relationship to the physiographic regions of North America. The Wyoming basins to the south of Carbon County contain many sites associated with former cultures that practice the hunting and gathering strategies that are best defined in the Great Basin. These cultures were the predecessors to the later Numic speaking peoples, such as the Shoshoni. To the north of Carbon County there are many sites associated with hunting and gathering strategies where animal procurement was practiced on a major scale. At the point of Euro-american contact the cultures in this region were Algonkian or Siouan speakers. Earlier in prehistory it is not known who the occupants were, but the importance of Carbon County is that it is situated in the area of contact between the two regions. If rock art motifs can be associated with a recognized former culture it will be possible to learn the distribution of that culture. Areas of contact between physiographic regions are especially critical in understanding the flow of various cultural items between the regions. The preliminary studies on rock art in Carbon County suggest this is also the case with



rock art designs. Some motifs have distributions more to the north while others are more common in the south.

The fine incised line style of rock art found at several Carbon County sites is significant for its content. This rock art is so similar to the ledger art of historic Plains Indians that it will probably be possible to actually "read" certain parts of the drawings. The science of understanding Plains Indian art through recognizing both primary and secondary meanings from a glyph is presently being refined through studies of ledger art. These same glyphs occur in the rock drawings at several sites in Carbon County. The significance of these sites is that it be possible to decipher some of their meaning. More important is the fact that it may be possible to refine the technique for "reading" rock art and apply the technique to sites outside Carbon County.

Certainly another significant aspect regarding Carbon County rock art is that it is aesthetically pleasing to many people. Many local residents have recognized the importance of the sites for years as have persons from other areas of North America. The major books on North American rock art contain discussion and photographs of rock art sites in Carbon County. Numerous other articles have been written about the rock art in Carbon County. These attest to the local, regional and national interest in Carbon County rock art and suggest it should be preserved for its audience of admirers.

The attempt by the Bureau of Land Management to preserve a rock art drawing in Carbon County by using a chemical agent to retard the rock erosion may have important implications for rock art preservation. The material (Pencapsula) was applied over ten years ago. It should be possible to undertake follow up studies to learn the success of the technique and thereby develop it for other sites. Any successful technique would be especially significant for future rock art conservation.

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APPENDIX A

